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Spring/Summer 1997
Volume 98, Number 1

6

Human exposure to rabies in Kansas in 1996

8

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14

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18

Analysis regarding specific topics of well child care: a regional comparison

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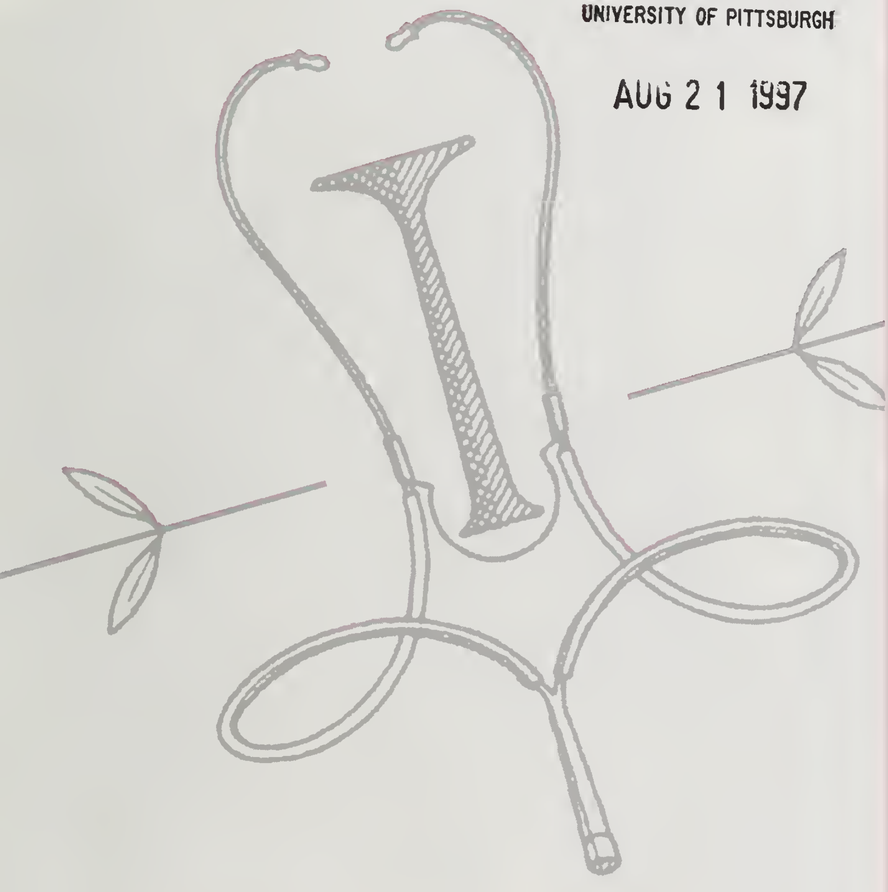

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SCIENTIFIC ARTICLES

Human exposure to rabies in Kansas in 1996 6
Conservative management of carcinoma of the anal canal 8
Ileocolonic intussusception by Burkitt's Lymphoma (small noncleaved cell lymphoma) 14
Analysis regarding specific topics of well child care: a regional comparison 18

DEPARTMENTS

Editorial Comment
A network or a tangled web? 4

Your Older Patient
Recent developments in the management of osteoporosis 24

Book Review
Just plain good 27

Medicine of Tomorrow
A peek at the future of psychiatry in Kansas 28

News from KDHE
A preventive case analysis of tuberculosis cases occurring in Kansas in 1994 30

Horse and Buggy Doctor
Lectures 34

Lest We Forget
President's address, 1895 35

In Memoriam . . . A moment of silence 39

The Last Word
On physician-assisted suicide 40

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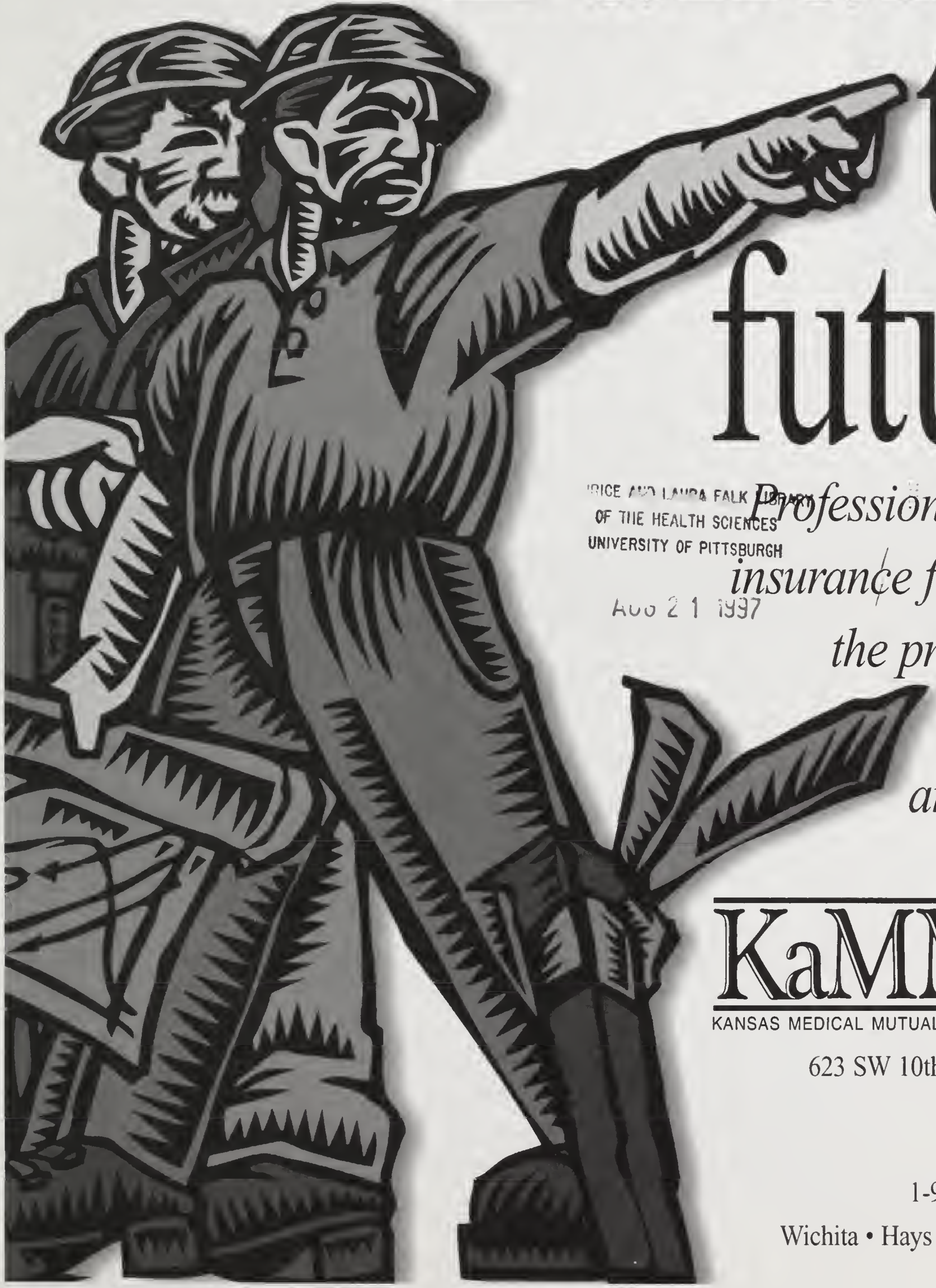

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A network or a tangled web?

Warren Meyer, MD

"NETWORKING" IS THE NEW BUZZ word on the medical scene. And it appears that every physician should pay heed because networking, in one way or another will play a significant role in medical practice as the "managed care" environment becomes more a part of medical economics in Kansas.

The current networking trend is an attempt by the state's larger, mostly tertiary, care centers and outside conglomerates such as Columbia to increase their market share and extend services to smaller communities. By linking smaller hospitals, physicians, ambulatory surgery centers, home health care facilities, and other health care service areas to themselves these larger entities can reduce the cost of supplies, and joint venture with other health care providers.

Estimates indicate that by the year 2000, hospital admissions will be reduced by 30 percent, outpatient surgeries will increase, preventive care will receive stronger emphasis, and there will be more use of home health care services. Studies have shown that working to reduce duplication, the use of treatment algorithms, pre-discharge planning, proper use of antibiotics, etc. can reduce medical costs and improve care. Greater cooperation between the various health care providers will be more effective in continuing the drive to lower costs and improve care.

The acquisition of smaller hospitals by larger medical centers and conglomerates will produce savings simply due to enhanced management. In addition to acquisition, the conglomerates have also used various other strategies to expand their holdings: leasing of facilities, mergers, joint ventures, and partnerships are being entered into depending on the local needs of and the opportunities in the area. The latter seems to be the current method of expanding the scope of their acquisitions.

Physicians especially should exercise caution about these networking opportunities. Will the network turn out to be a "spider's web?" Many "networkers" will hold at least 51 percent of the venture. Many of them offer investment opportunities that may or may not materialize. Network involvement ranges from outright employment to office managing services to lease arrangements. While these arrangements may appear to be the answer to the current confusion about the future course of medical care in this country, caveat emptor.

Some questions that a physician should ask him/herself in response to the offers that will come are:

- Will I be able to practice without restraints?
- How long will physician input into the operations be welcome? How long will they be followed?
- Will my suggestions and concerns be addressed?
- What redress will be available to me in case of dispute?
- How will my relationship with my patients be affected?
- Will I still function as my patient's advocate?
- Will my patients still be able to rely on me as "their doctor"?
- How will contract negotiations be conducted?

The growth of conglomerates seems to be slowing according to investment brokers. Catholic health initiatives are posing some resistance to the conglomerates. The attorneys general in several states have begun to hold public hearings on perceived "wrongs" in the conglomerate picture. Lawrence not only rejected an attempt by Columbia to lease their facility, but there was a public outcry when they intimated that they would build their own hospital in Lawrence if they couldn't lease.

So the picture may not be as ominous as we have all assumed. Still the old warning, "caveat emptor" is applicable in this matter. Hope this may shed a little light at the end of the tunnel, and we hope it's not a train! WEM

Human exposure to rabies in Kansas in 1996

G Pezzino, MD; JA Calder; & DJ Briggs

ANIMAL RABIES IS ENDEMIC IN KANSAS. Human exposures to potentially rabid animals is often reported, and guidelines exist to minimize the risk of human rabies after such exposures.[1,2,3] In many cases, post-exposure prophylaxis (PEP) is administered on the assumption that an animal biting, scratching, or licking an open wound on a person might be rabid, but often this assumption cannot be confirmed with laboratory tests, because the animal is not available for testing. However, in a few instances it is possible to demonstrate that the animal was in fact rabid. In this article, we report a case of human exposure to a confirmed rabid farm kitten in Kansas.

In August 1996, a woman living on a farm was bitten by a kitten. The woman reported that about three weeks earlier a skunk had attacked the litter. The skunk then escaped. There were two other litter mates, the mother cat and a wild cat also living on the farm; their exposure to the skunk was unknown. Neither of the adult cats had been vaccinated against rabies. The kitten that bit the woman was euthanized one day after the biting accident. Upon recommendation of the woman's veterinarian, the kitten's head was submitted to the Rabies Diagnostic Laboratory at Kansas State University in Manhattan to be tested for rabies. The test result was positive.

After notification of the positive test result, the Office of Epidemiologic Services (Kansas Department of Health and Environment) contacted the local health department and recommended that all the individuals who had close contact with any of the farm cats during the ten days before the biting accident receive rabies PEP. As a result, three individuals received PEP. The remaining two kittens from the litter and the two adult cats were euthanized and tested for rabies. The results were negative. None of the exposed individuals have rabies at this time.

This case illustrates some important issues in rabies control. The first is the risk that wild animals pose for humans and other animals, particularly those living on farms. The skunk which attacked the kitten was the most likely source of infection for the kitten, since skunks are a well-known reservoir of animal rabies in Kansas. Bats are also extremely dangerous vectors of rabies, and PEP is currently recommended after any physical contact with a bat, if the animal is not available for testing. A second important issue is that domestic animals or pets left outdoors are at risk of being exposed to rabid wild animals, and may then expose humans, as with this kitten. Finally, coordination between private physicians, veterinarians, and public health officials is essential for a prompt implementation of control measures.

ANIMAL RABIES IN KANSAS

Although the last case of human rabies in Kansas occurred in 1968, animal rabies continues to occur in the state. In 1995, the Rabies Diagnostic Laboratory at Kansas State University received 1,856 specimens for rabies testing, an eight percent increase in submissions from the previous year. Dogs were the most frequently tested species, followed by cats, representing substantial contact with humans. Forty-six specimens were found positive for rabies. The positive specimens were submitted from 20 counties, mostly located in the eastern half of the state. These are also the counties that submit the greatest number of specimens for rabies testing. Specimens from six species were found infected with rabies (see Table 1). Wildlife accounted for 80 percent of animal rabies, with skunks representing 67 percent of all rabid animals. Among domestic animals, cats had the greatest number of positive specimens, despite the fact that more dog specimens than cats were tested. Cats are often allowed to roam freely, and owners all too often do not provide rabies vaccination to their cats. As a result, cats may encounter rabid wildlife and become infected, as in the case reported above.

TABLE 1: RABID ANIMALS BY SPECIES IN KANSAS, 1995

Species	Tested	Positive	Percent positive
Bat	50	6	12.0%
Cat	623	4	0.6%
Cow	41	2	4.9%
Dog	713	2	0.3%
Horse	13	1	7.7%
Skunk	112	31	27.7%

Important recommendations for effective rabies control include:

- Avoid contact with wildlife, particularly with animals behaving unusually.
- Protect domestic animals. Vaccination of domestic animals, particularly cats and dogs, is extremely important to control rabies and prevent human cases.
- Report any possible exposure of an individual to a potentially rabid animal to the public health authority (i.e., local health department or Kansas Department of Health and Environment) for an assessment of the need for PEP or other follow-up activities.

Kansas statutes and regulations do not include any provisions for reporting animal bites, but many counties adopted local ordinances that require such reporting. Kansas statutes and regulations determine how to handle animals that potentially exposed humans to rabies. All wildlife animals should be immediately euthanized (if available) and tested for rabies. Special exclusions are included for ferrets, if the owner certifies through an affidavit that the animal was born and bred in captivity and has never been outside in its entire life and the local health officer verifies the truthfulness of the affidavit. Owned cats and dogs should be observed for ten days, during which period they should be sacrificed and tested for rabies if they develop any signs of disease. Stray cats and dogs should be euthanized and tested immediately.

Testing an animal after a potential human exposure will help determine whether PEP is necessary or not. Given that the cost of PEP for an average weight adult (i.e. 150 pounds) is approximately $1,000 and very painful, it is important that animal tests be completed, when possible. If a wild animal or a stray dog or cat is the source of possible human exposure to rabies and the animal is not available for timely testing, PEP should be started immediately.

For information about how to submit animal specimens for testing, please call the Rabies Diagnostic Laboratory at Kansas State University, at 785.532.5640. To report possible rabies exposure or to have further information about rabies control in Kansas please call the Office of Epidemiologic Services, Kansas Department of Health and Environment at 785.296.6179. KMS

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Conservative management of carcinoma of the anal canal

Raghunath P Reddi, MD; Jace W Hyder, MD; & Shaker R Dakhil, MD

THE POTENTIAL CURATIVE EFFECT OF RADIATION THERAPY AND CHEMOTHERAPY WITH THE preservation of anal function in the treatment of carcinoma of the anal canal is well established. We compared retrospectively, patients treated with surgery alone, radiation therapy alone and combination of chemotherapy and the radiation therapy to assess the association of multiple factors, such as toxicity, local control and overall survival.

MATERIAL AND METHODS

The medical records of 31 patients with carcinoma of the anal canal treated at St. Joseph Medical Center between January, 1971 and December, 1993 were evaluated retrospectively. Follow-up was obtained from Medical Records and also by contacting the primary care physicians in those cases where the patient did not follow up at St. Joseph Medical Center. Clinical American Joint Committee on Cancer staging was carried out (see Table 1).

Sixteen patients had Stage I and II localized lesions limited to the anus and perineal area measuring less than 5.0 cm in diameter. Eight patients had Stage III disease with or without lymph node involvement. The remaining seven patients had Stage IV disease with extension into surrounding area or involvement of the regional lymph nodes, into the groin or pelvis. The histopathological classification of the 31 patients is tabulated in Table 2.

Pretreatment work-up for all patients consisted of a biopsy of the anal lesion, chest radiography, complete blood cell count, blood urea nitrogen, creatinine level and liver function tests. Abdominal, pelvic computerized tomography was performed after 1980 in 16 patients but CT findings did not affect the treatment of these patients.

TREATMENTS

Surgery: Nine patients (27 percent) underwent abdominal-perineal resection as a primary management. Four patients received palliative surgery, consisted of biopsy only and two of four patients underwent diverting colostomy for obstruction of bowel movements.

External Beam Radiotherapy: Eighteen patients (58 percent) received radiation therapy. The external beam radiotherapy was delivered with 4 MV Linear Accelerator and after 1980, a combination of 6 and 18 MV Linear Accelerator was used. Three or four field technique was used and a tumor dose of 5400-6000 cGy was delivered to the perineum and the anal canal with the daily increments of 180 cGy over the period of six to six and one half weeks. Five out of the 18 patients received radiation therapy alone and the tumor dose was maintained 6000 cGy whereas the remaining 13 patients received with concomitant chemotherapy and the radiation therapy dose was maintained 5400 cGy.

Chemotherapy: Thirteen patients (39 percent) received the planned chemotherapy and the radiation therapy. Chemotherapy consisted of 5-Fluorouracil ± Mitomycin-C or Cisplatinum. The 5-FU dosage was 1 Gram/m^2 on Day one to four, 96-hour continuous infusion; Mitomycin-C 10 mg./m^2 on Day one bolus or Cisplatinum 25 mg/m^2, Day two to five, bolus after standard hydration. A second course of chemotherapy was repeated after four weeks while patients were receiving radiation therapy.

FOLLOW-UP ASSESSMENT

The first assessment of the tumor was made four to six weeks after the external beam radiation therapy by all three physicians. Complete response was defined as a total regression of the tumor. Partial response was defined as a regression of tumor more than 50 percent of the initial volume of the tumor. No biopsy was performed at this time to avoid the risk of necrosis. Follow-up examination was scheduled every three months for two years and after that, every six months. If the residual induration, thickening or suspicious mass persisted for the next three months, a biopsy was carried out. If the biopsy proved to be positive, the patient was considered for wide local excision and skin graft or abdominal-perineal resection was carried out in the absence of distant metastasis.

TABLE 1

Stage		Patients
I	$T_1N_0M_0$	7
II	$T_2N_0M_0$	9
III	$T_2N_1M_0$ & $T_3N_0M_0$	8
IV	T_4 with any combination	7

T: primary tumor size and extent
N: regional lymph node involvement
M: distant metastasis absent or present

STATISTICAL ANALYSIS

Tumor characteristics and treatment detail for the 31 patients are listed in Table 3. The mean age of the 31 patients was 68 years and average age was 65 years. Male to female ratio is 8:23. Four patients were treated for palliation only. All four died with tumor within three to six months.

The remaining 27 patients were treated for cure. Five of these patients survived, ranged from two to four and one half years and two of them lived over four years, but all of these five patients died with tumor.

Seven patients died without tumor due to intercurrent diseases, consisting of cardiac failure, myocardial infarction, stroke or renal failure with a mean survival of nine years and the maximum survival of 12 years.

TABLE 2

Histopathology	Patients
Squamous Cell Carcinoma	22
Basaloid Carcinoma	5
Cloacogenic Carcinoma	2
Extramammary Paget's Disease	1
Sarcoma	1

Fifteen patients are alive without any evidence of tumor with the median of six years, two months; and the maximum of 23 years, four months.

Stage by stage analysis of the disease-free survival evaluation revealed five of seven patients in the Stage I, eight of nine patients in the Stage II, seven of eight patients in the Stage III and only one of seven patients in the Stage IV. There was very little difference noted between the surgery and the radiation therapy in both Stage I and II patients however, a definite improvement was seen with the combination of chemotherapy and the radiation therapy. Ten out of the 13 patients were free of disease from one year to 13 years. Two of the Stage III patients recurred within six months and both of them underwent abdominal-perineal resection; one patient is free of disease and the second patient is living with tumor.

Acute toxicity, besides the bone marrow suppression and occasional neutropenic fever, resulted in proctitis and diarrhea in almost all patients. None were severe enough to cause a break in treatment for more than two days and did not require hospitalization. Frequent nausea and occasional vomiting and moist skin desquamation reaction in the perineal area was noted in 75 percent of the patients. Only one patient, Stage III, developed severe moist desquamation requiring skin graft and she is still alive and doing well after four and one half years.

CARCINOMA OF THE ANAL CANAL

Continued from page 9

DISCUSSION

As Table 4 illustrates, most current studies use a higher dose of radiation than the 3000 cGy originally used by Nigro et al.[1, 2, 3, 5, 6, 12] As this dose was chosen empirically, it is understandable that the other regimens have been researched. The local control rate was observed in the current Study with moderately high radiation dose 5400 cGy; in the Stage I and II was over 90 percent, whereas in the Stage III disease 66 percent. The increased dosage is delivered at the expense of increased side effects, which is primarily involved in the late damage to the perineal skin, proctitis and possible anal stenosis.

As neither Doci et al[2] nor we have noted severe long-term problems, which are less than five percent of the patients, generally considered desirable in the treatment of malignant disease with combination therapy. However, Commings et al[1] reported a startling 28 percent occurrence of severe late reactions in the combined 5-FU, Mitomycin C and radiation therapy group, although this may have been due to a larger fraction dose 250 cGy, than other researchers used. Tanum et al[11] reported serious late morbidity, defined as the necessity of surgical intervention in 17 percent of the patients. Sischy et al[9] noted severe late reactions in six patients (eight percent) which included proctitis and anal stenosis. There were no long-term side effects in Leichman et al[4] group, when the tumor dose was kept 3000 cGy. External radiation therapy without chemotherapy is an acceptable alternative to combine radiation therapy and chemotherapy in the management of anal canal, published by Martenson et al[5] and Touboul et al.[12] The results are similar to combined therapy ranging 94-100 percent for T_1 lesion, 86 percent for T_1 and T_2 lesions and 60 percent for T_3 lesions.

The poor response in the Stage III patients could be due to the bulk of the disease, poor oxygenation of the tumor tissue and possibly lymph node involvement. Two of the eight patients were dead with distant metastasis, in addition to the local reactivation of the tumor.

Twelve of 13 patients in the combination group were alive from one year to 12½ years. Three of these patients needed surgical intervention; one had a skin graft for necrosis of the skin and the remaining two patients underwent abdominal perineal resection for recurrent disease. All three patients had Stage III disease and are alive from one to four and one half years.

There are two possible mechanisms to explain the effectiveness of combined modality therapy. Chemosensitization suggests that chemotherapy directly increased the cytotoxicity of radiation while spatial cooperates suggests that chemotherapy acts primarily upon micro metastasis and may also be cytotoxic to those cells within the primary tumor that are more resistant to the effects of radiation.

CONCLUSION

Abdominal perineal resection of the rectum is an extensive operation that results in the establishment of a permanent colostomy. It is no longer the treatment of choice for invasive carcinoma of the anus. There is sufficient evidence available that the combination of Chemo-Radiation therapy is at least as effective as the radical operation without the burden of a permanent colostomy. Local tumoral control and a functioning anus were present in over 90 percent of the patients. It is our impression that 5-FU in combination with either Mitomycin C or Cisplatin, in association with radiation therapy in Stage I and II, and early Stage III, would achieve the optimum result; whereas the bulky Stage III tumors may need surgical approach following the combined preoperative Chemo-Radiation therapy to achieve the cure. It should be noted that no patient required a colostomy for the management of treatment sequelae, the interventions taken were all successful in managing complications, and no complication was fatal. In addition, measures should be taken to reduce the volume of irradiated bowel if the patient has a history of prior pelvic surgery.

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Editor's note: Table 4 and references for this article are printed on page 12.

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TABLE 3: EFFECTS OF COMBINED CHEMOTHERAPY & RADIATION TREATMENT

No.	Initials	Age	Sex	Diagnosis Stage	Primary Treatment	Secondary Treatment	Died with tumor	Died without tumor	Alive
1	EM	48	F	SCC I	APR	None	2 yrs.		
2	MH	63	M	SCC IV	Biopsy	None	4 mos.		
3	BM	54	F	SCC IV	APR	None	3 yrs. 1 ½ mos.		
4	MR	63	F	SCC I	APR	None			23 yrs. 4 mos; NED
5	FW	78	M	SCC I	APR	None		12 yrs; CVA	
6	HE	79	F	SCC II	APR	None		9 yrs; renal failure	
7	FM	70	F	SCC I	APR	None	4 yrs. 6 mos.		
8	KA	65	F	SCC IV	Biopsy	None	6 mos.		
9	BD	69	M	Sarc II	Biopsy	Colostomy	Unknown	Unknown	Unknown
10	MV	79	F	SCC II	APR	None		9 yrs; CHF	
11	ME	70	F	SCC III	APR	RT		2 yrs 10 mos; cardiac	
12	WH	68	M	CLOA IV	Biopsy	None	3 mos; dif mets		
13	BC	68	F	BASA III	APR	RT			16 yrs. 6 mos; NED
14	BC	55	F	SCC IV	RT	None	4 yrs. 1 ½ mos.		
15	MH	72	F	SCC I	RT	None		7 yrs 9 mos; CVA	
16	AT	76	F	BASA II	RT	None			9 yrs. 6 mos; NED
17	FA	81	F	BASA IV	RT	None		3 mos; MI	
18	RP	67	F	Paget II	RT	None		4 yrs. 8 mos; cardiac	
19	QB	44	F	SCC I	RT + C	None			12 yrs 6 mos; NED
20	CE	52	M	SCC II	RT + C	None			7 yrs; NED
21	RE	67	F	BASA I	RT + C	None			3 yrs 6 mos; NED
22	FL	79	F	BASA II	RT + C	None			3 yrs 2 mos; NED
23	CB	61	M	CLOA III	RT + C	APR			1 yrs. 6 mos; REC
24	SB	77	F	SCC III	RT + C	None			2 yrs; NED
25	SE	69	M	SCC II	RT + C	None			9 yrs 6 mos; NED
26	GW	41	M	SCC III	RT + C	None			6 yrs 2 mos; NED
27	CJ	80	F	SCC III	RT + C	None			4 yrs; NED
28	MV	68	F	SCC III	RT + C	APR			1 yrs. 6 mos; NED
29	WJ	57	F	SCC IV	RT + C	None	1 yrs. 3 mos; dif mets		
30	HM	55	F	SCC II	RT + C	None			1 yrs.; NED
31	CA	43	F	SCC III	RT + C	Skin graft			4 yrs 6 mos; NED

CARCINOMA OF THE ANAL CANAL

Continued from page 11

TABLE 4: EFFECTS OF COMBINED CHEMOTHERAPY & RADIATION TREATMENT

Reference	Total RT Dose (cGy)	Chemotherapy	Patients	Severe reactions	Follow-up	Survival
Doci et al	5400	5 FU, MMC. x 3 cycles	56	2 (4%)	5 yrs.	81
Commings et al	4800 to 6000	5 FU, MMC.	69	19 (28%)	5 yrs.	76
Tanum et al	5000	5 FU, MMC.	106	18 (17%)	5 yrs.	73
Sichy et al	4100	5 FU, MMC.	79	6 (8%)	3 yrs.	85
Leichman et al	3000	5 FU, MMC.	45	0 (0%)	5 yrs.	76
Reddi et al	5400	5 FU, MMC. or 5 FU, Cispl.	13	1 (7%)	6yrs. (median)	93
Myerson et al	5000 to 5500	5 FU	65	9 (14%)	5 yrs.	88-100
Martenson et al	5500 to 6700	None	18	2 (11%)	5 yrs.	94-100
Touboul et al	4000 to 4500 +1500 to 2000	None	270	27 (10%)	5 yrs.	$T_{1\&2}$: 86 T_3: 60
Svensson et al	Unknown	Bleomycin	82		5 yrs.	71
Johnson et al	4050 to 4500	5 FU, MMC.	24	5 (21%)	5 yrs.	75

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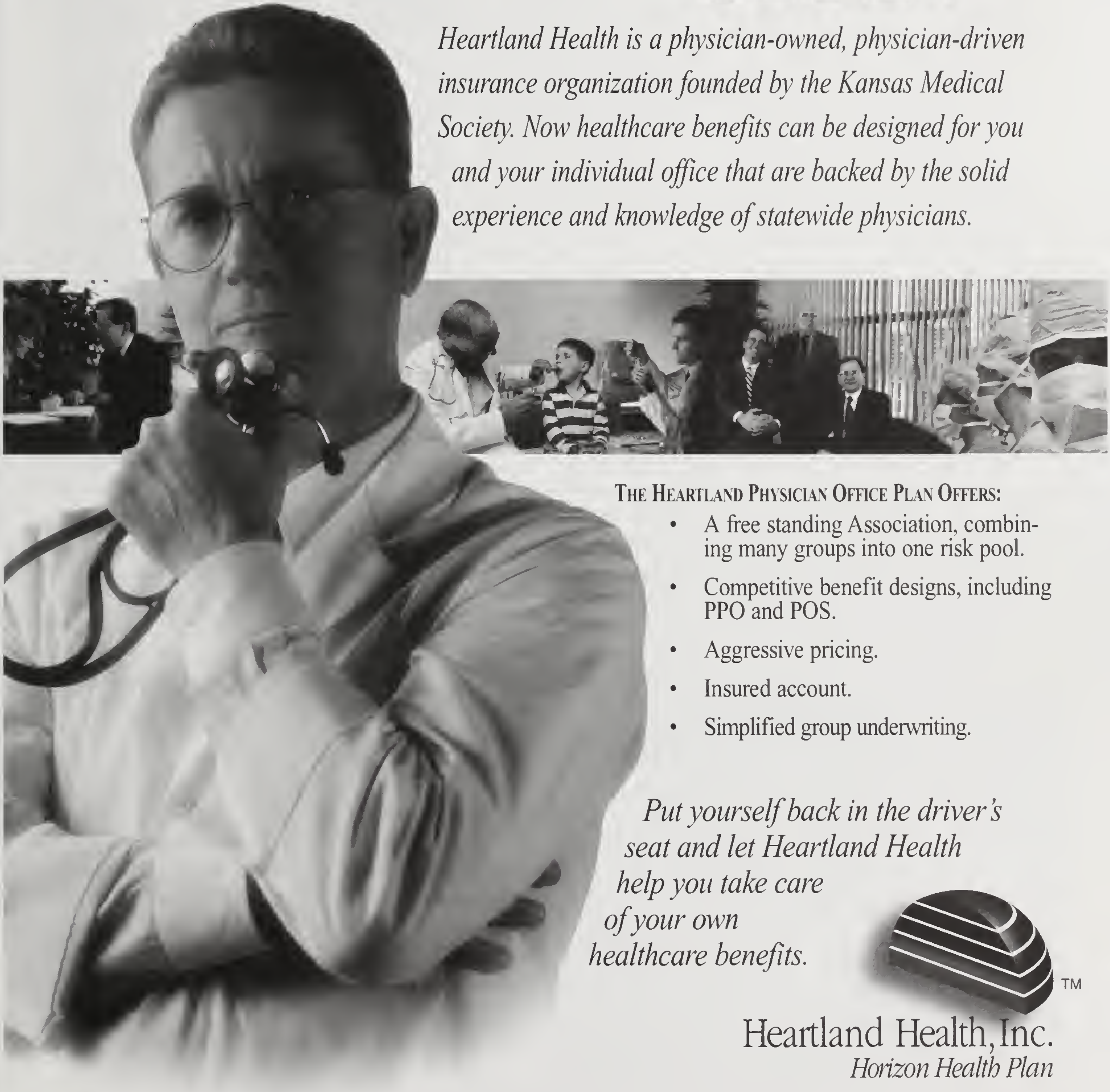

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Ileocolonic intussusception by Burkitt's Lymphoma (small noncleaved cell lymphoma)

Fernando Ugarte, MD & Daniel Hancock, MD

A TEN-YEAR-OLD BOY HAD A FOUR-WEEK history of abdominal pain, weight loss of 14 pounds, constant vomiting, and diarrhea. He was treated initially by his family doctor for a presumptive flu with Bactrim, but did not respond. He developed abdominal pain and received Tagamet and antiacids, but the response was very limited. Vomitus was described as bilious, green-yellow, and foamy. Persistent diarrhea with four to five bowel movements daily, was accompanied by crampy, colicky pain. Stools were usually brown with question of jelly-like material. Abdominal pain was intermittent and occasionally very severe.

On physical examination the child appeared sick and pale, without peripheral adenopathy. The abdomen was soft, but it was very tender. A palpable, tender and moveable mass in the right lower quadrant, on occasion, would seem to disappear. There were no signs of peritonitis and the bowel sounds were normal. Ultrasound revealed a normal gallbladder, but a complex mass was found in the region of the right colon.

He was admitted to the hospital with the diagnosis of intussusception. A barium enema showed ileocolonic intussusception that could not be reduced under hydrostatic pressure (see Figure 1).

At abdominal exploration there was no free fluid. The ileocolonic intussusception was irreduceable. A 5 cm tumor at the root of the right colic vessels was separate from the instussescepted bowel. It was moveable and seemed to be solitary. The spleen, liver, and gallbladder were normal. The small bowel and duodenum were also normal. A right hemicolectomy with removal of the right colic vessels included the extracolonic tumor with a gross normal margin away from the tumor and the vessels (see Figure 2). Intestinal continuity was restored by a stapled ileotransverse colostomy.

When the resected specimen was opened, the main tumor was a 6 cm mass showing a glistening white surface with thick bundles of white fibrous tissue and nodular red, irregular areas (see Figure 3). The tumor at the right colic vessels had similar appearance (see Figure 4).

The patient received a six-month course of chemotherapy based on Cytoxan, Adriamycin, and Vincristine, Methotrexate, Ara-C, and hydrocortisone. He is alive and free of disease four and one half years later.

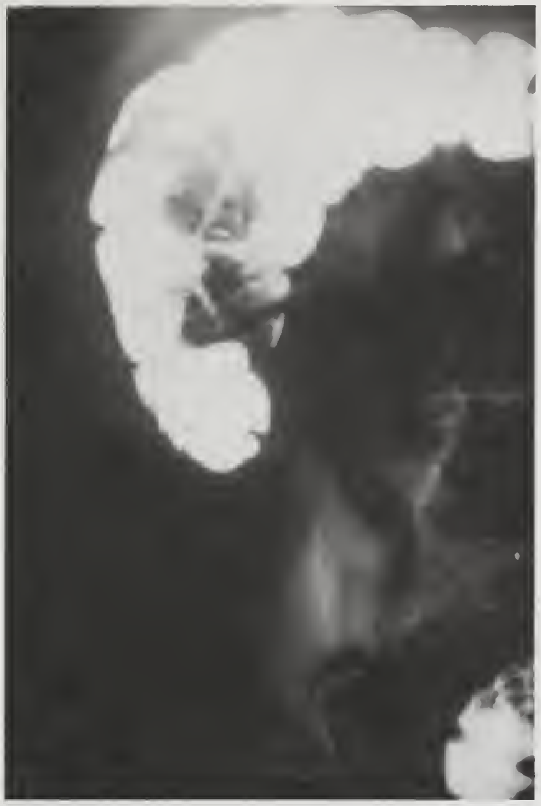

Figure 1: Ileocolonic intussusception that could not be reduced by pressure. The mass in the colon was interpreted as swollen ileum (head of the intussusception).

PATHOLOGY

The specimen submitted for pathologic study consisted of a segment of terminal ileum with attached cecum and ascending colon. The terminal ileum included a 6.0 x 4.0 cm elevated partially necrotic tumor which extended through the ileocecal valve, resulting in intussesception. The mesentery of the cecum and ascending colon was also involved with a mass 5.5 cm in diameter.

Microscopic sections of the head of the intussesception (see Figure 5) showed transmural involvement of the bowel wall by diffuse infiltration of uniform, small, primitive lymphoid cells with interspersed histiocytes producing a characteristic, but not pathogromonic, "starry-sky" pattern of Burkitt's lymphoma. The primitive lymphoid cells possessed round, non-cleaved nuclei containing several prominent nucleoli and numerous mitoses. There was necrosis with ulceration of the terminal ileum mucosa. A mass in the colonic mesentery showed similar involvement with Burkitt's lymphoma.

DISCUSSION

Dr. Dennis Burkitt, in 1958 described a malignant lymphoma found in African children, presenting often as a tumor of the jaw and face.[1] In the United States the presentation is not usually as a jaw tumor, but as a lymphoma in other locations. Intussusception is not rare. Malignant tumors of the small bowel are uncommon. A brief review of the literature reveals that the majority are malignant lymphomas. Their incidence is common, but the presentation is as an abdominal mass, gastrointestinal bleeding or obstruction, but not as intussesception.[2-8]

Ileocolonic intussusception is not rare in children and presents with symptoms similar to our patient's. The majority of cases are idiopathic. There are benign causes of intussesception, among them are Peutz-Jegher polyps, Meckel's diverticula, carcinoid tumors of ileum, and cystic duplications of small bowel[9-13] and lymphoid hyperplasia of intestine,[17] appendix or appendiceal stump.[18, 19]

There are also rare cases of ileocolonic intussesception such as cystic lymphangioma of the cecum,[14] blue rubber bleb nevi,[15] heterotopic gastric mucosa,[16] and Henoch-Schonlein purpura,[20-22] and a Cecal Fecolith.[28]

Saito and associates in 1984 presented 127 babies with intussusception and only one caused by a Burkitt's lymphoma. This is the only case that we have been able to document and therefore conclude that our case is a rarity. Although we are aware that lymphomas[23] and a variety of diseases cause intussusception, a Burkitt's lymphoma has been reported only once.[24] Ein and associates reported in 1986 intussusception in children; out of a group of over 1,200 infants with intussusception in a 40 year period, there were only 12 cases of malignant lymphoma and none of those was due to Burkitt's lymphoma.[24, 25]

The diagnosis of intussusception in children is relatively easy, by the history of abdominal crampy pain, usually colicky, and diarrhea usually with "currant jelly" type of stool such as in our case. Our case was not diagnosed as easily; the history of "currant jelly" stools was obtained from the mother after it became evident that the child had an intussesception. Many times when this is offered in the history by the

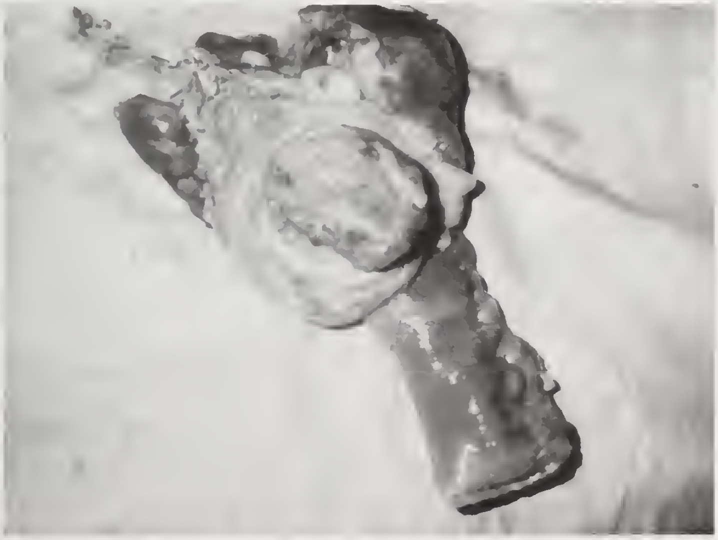

Figure 2: Specimen open showing the intussuscepted tumor of the ileum in the cecum.

BURKITT'S LYMPHOMA

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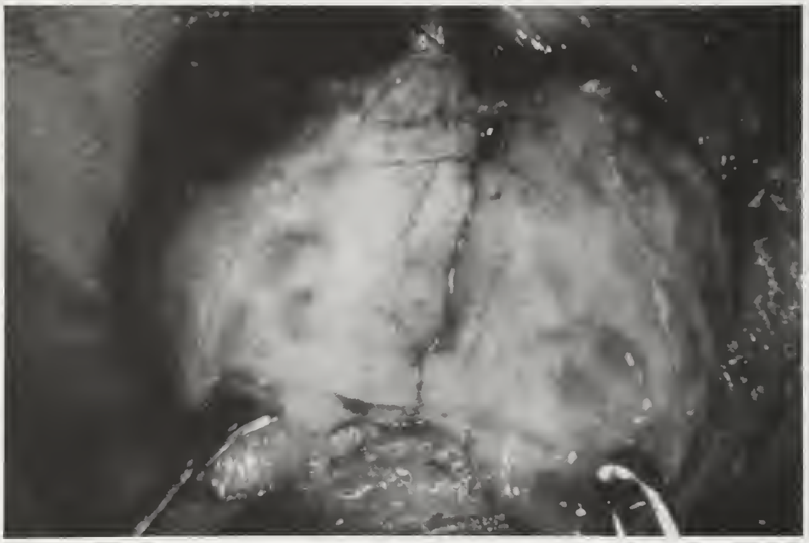

Figure 3: Cut section of the tumor, head of the intussusception. Glistening white surface with reddish nodules.

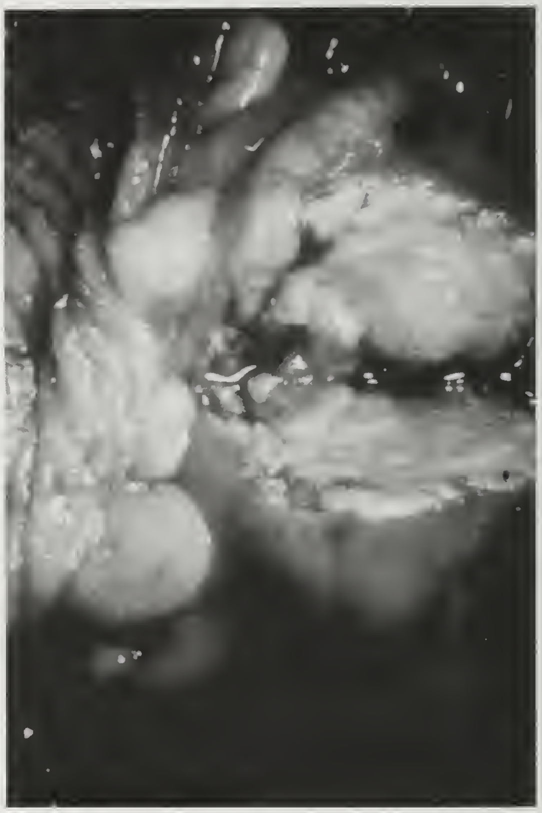

Figure 4: Similar appearance of the tumor found at the root of the right colic vessels.

parents the diagnosis becomes easier. On physical examination presence of a mass in the right side of the abdomen facilitates diagnosis. Cases of intussusception have been diagnosed by sonography.[26, 27]

The treatment is usually begun by the old method of a barium enema that not only confirms the diagnosis, but many times reduces the intussusception. This was introduced by Ravitch and McCune back in 1950.[29] If reduction cannot be done by hydrostatic pressure during the barium enema, laparotomy is mandatory. Hutchinson presented 209 cases of which five children died as a result of severe intussusception with non-operative management.[30] One must never assume that the situation is irreversible or untreatable and all efforts should be made to take all of the gross tumor present at the time of the laparotomy. CT scan done postoperatively, prior to chemotherapy, did not reveal residual tumor and subsequent CTs have been normal. KMS

Dr. Ugarte is an attending surgeon at the Community Memorial Hospital in Marysville. Dr. Hancock is a pathologist at the Peterson Clinic Laboratory in Manhattan and the consulting pathologist at the Community Memorial Hospital in Marysville.

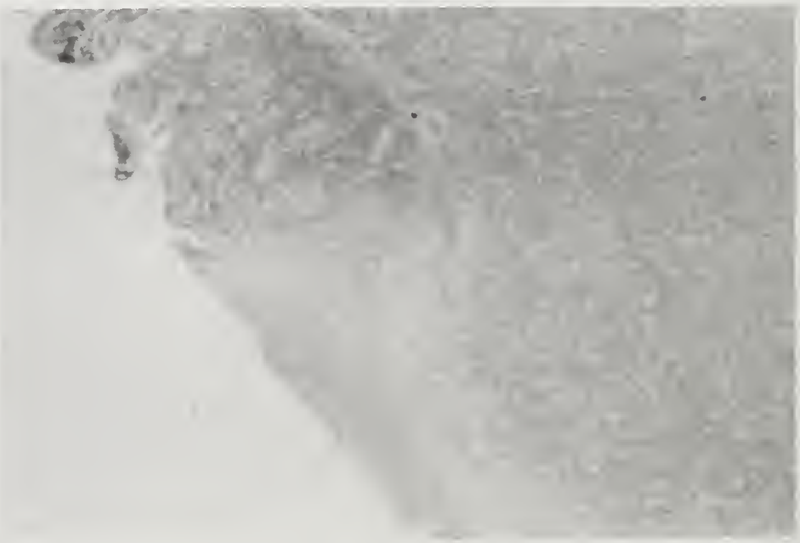

Figure 5: Transmural Burkitt's lymphoma of ileum with mucosal necrosis (hematoxylin and eosin stain x25).

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For a complete listing of references, readers may contact Dr. Ugarte at 785.562.2517.

Analysis regarding specific topics of well child care: a regional comparison

Martin Rocha, MD & Diana Guthrie, PhD

The AAP recommends well child checks (WCCs) for children starting from the newborn period through adolescence[1]. The purpose of WCCs is to avert preventable morbidity and mortality from diseases and injury and to allow for early intervention with effective therapy for problems identified at these visits.

In the first year of life, WCCs involve a series of physical examinations, immunizations, screening tests for illnesses, developmental problems, health education, and teaching about injury prevention.[2]

The school age child WCCs include more of the same, but visits are less frequent. In this age group psychosocial issues become more important and increased emphasis on injury prevention should be stressed.[3]

Adolescent WCCs involve general medical problems, sports medicine, psychosocial issues, substance abuse, sexually transmitted diseases (STDs), and contraceptive counseling.

Causes of childhood injuries have been shown to have regional differences: motor vehicle accidents (MVAs) are more prevalent in the southern states, drowning is more frequent in the western states, house fires are more prevalent in the southeast and midwest, and accidental firearm injuries are more prevalent in the south. Morbidity from suicide bears equal prevalence throughout this country. These trends were from data accumulated from 1980 to 1985.[4] More recent data from 1985 to 1990 included no change in this regional variation.[5] The most recent data available shows an increase in traumatic injury, but regional variations in the causes cited above still exist.[6]

Prior to October, 1994, no data on the adequacy of WCCs existed. Currently, there is no data comparing the adequacy of WCCs in the different regions in the U.S. The most recent study describing WCCs in the U.S. relied on the recall of the parents of the patients; it was concluded that 42 percent of caucasian infants and 29 percent of African-American infants receive WCCs that included participation in a health screening, and were up to date in their immunizations by eight months of life.[7]

Young people between the ages of 11-20 years have the lowest rate of visits to physicians of any other group,[8] and yet the same group has the highest rate of medical conditions requiring immediate care. Pediatricians see 29.3 percent of all 11-14 year-old children who seek primary health care, and 8.3 percent of all 15-20 year-olds.[9] This occurs in spite of the fact that in 1972 the AAP issued an update that the purview of pediatrics ends at 21.

The justification of the current study is that very little data on the adequacy of WCCs exists. The goals of this study were to determine the rate of adequate WCCs in the U.S., to determine if anticipatory guidance methods explain regional differences in certain causes of accidents in children, and to evaluate how pediatricians define their role in the care of adolescents. Previous studies indicate that adolescents represent a small percentage of patient visits to pediatricians.[10] However, a study by Mark, et al, used a small sample size and had a low response rate. The current study used a larger sample size and allowed for comparison of different regions in the U.S.

MATERIALS AND METHODS

A survey based on recommendations of the AAP in regards to WCCs were sent to 2,000 practicing pediatricians. The doctors surveyed were anonymous to the principal investigator. A mailing list was provided by the AAP. The physicians were selected from four regions of the mainland U.S., the west, midwest, southeast, and northeast. Five hundred physicians were selected from each region with 250 mailings going to board certified pediatricians, 125 to board eligible pediatricians, and 125 to pediatric residents in each of the four regions.

The survey consisted of 22 questions describing parameters related to demographics and physicians' experience and gender, for the purpose of determining factors that could explain differences in the rate of WCCs in 12 month-old children as recommended by the AAP. The survey also addressed safety issues in children, namely, car seat safety, the prevention of drowning, the recommendation of smoke detectors, and gun safety in the home. Finally, the degree of involvement in adolescent health care by the pediatricians surveyed was examined. Specifically pediatricians were asked about their level of training in adolescent medicine, their level of involvement with eating disorders, STDs, depression, and substance abuse, and if they felt that their adolescent patients deserved total confidentiality regarding these items.

TABLE 1: ADOLESCENT MEDICINE SPECIALISTS RESPONSES

	Yes	No
Discuss eating disorders	6	1
Discuss STDs	7	0
Discuss depression	6	1
Discuss substance abuse	7	0

The surveys were mailed with a cover letter describing the nature of the study. Six weeks were allowed for response. There was no second notice.

The data was entered into a personal computer. Absurv software was used for data entry, data management, and data analysis. Descriptive statistics were provided for all parameters related to demographics, physicians experience, practicing habits, and guidelines from the AAP. The data was compared with those found in the literature and statistical significance and relation between variables, using parametric and nonparametric techniques, were determined. Simple multiple linear regression models were used to detect associations between variables.

The AAP recommends well child checks for children starting with the newborn period through adolescence.

RESULTS

Of the 2,000 surveys that were mailed there were 907 responses for a response rate of 45 percent. Of the 907 responses 218 were from subspecialists. The overall gender response rate was 52 percent males and 48 percent females. The practice of the respondents was varied.

Practicing pediatricians were asked if they felt that they were adequately trained in adolescent medicine, and if their training program offered a rotation in adolescent medicine. The overall response of where practicing pediatricians see themselves in their competence to deal with adolescent health care issues, and whether or not their training program offered training in adolescent medicine were assessed (see Figure 5).

The adolescent medical issues of the survey dealt with the report of unmet health care issues as reported by adolescents. The question in each of these four areas was made as to whether these items are discussed routinely to their adolescent patients, and whether or not treatment or referral is made.

The response of the four main issues by subspecialists in adolescent medicine varies (see Table I). Seven adolescent medicine specialists responded.

WELL CHILD CARE

Continued from page 19

DISCUSSION

There was fairly equal representation from the four regions surveyed. The high rate was from the west, and the southeast, with both regions contributing 26 percent apiece. The low rate was 23 percent from the midwest, and the intermediate rate was from the northeast. As can be seen there was not much variability in the response rate from the different regions. The relatively decreased rate from the midwest was explained by the weak response of the pediatric residents in that region.

The age of the respondents was consistent in all four regions, i.e. an age range from late thirties to early forties. Of the 218 subspecialists who responded the larger representation was from neonatologists.

The patient population served by the surveyed pediatricians is reflected in Figure 1. The ethnic group with the largest representation was the white population in all four regions. There was a significant involvement of the Hispanic population in the west, with the south and northeast having a large African-American representation. Such ethnic differences would be anticipated in the particular regions surveyed.

There were differences in the ethnic groups concerning where medical care was obtained. The majority of the white population were cared for by private physicians. The African-American and Hispanic groups had greater representation in health department and university settings. The category designated as other, was mostly specified as health maintenance organizations (HMOs). Here again, the caucasian population was the predominant group.

The responses of the physicians to the question of the percentage of 12 month-olds who had five WCCs, three diphtheria-pertussis-tetanus vaccines, three haemophilus influenza vaccines, and two oral polio vaccines was demonstrated in Figure 3. The overall response for the whole population of all four regions was 80 percent, ranging between 78 percent to 83 percent. The physicians were fairly consistent in their responses in the four regions. Definite differences in the population served can be seen in Figure 3. The adequate well child care rate in the overall white population was slightly above 80 percent, 65 percent in the African-American population. The rate in the Hispanic population was intermediate with an overall rate of 70 percent. This data does not correspond to the previous study which reported 42 percent for caucasians, and 29 percent for the African-Americans.[7] The discrepancy may reflect an over estimation by the physicians surveyed, however consistency of the different regions was remarkable. The differences would have to be explained by the population served which in turn would have to be explained by the cultural differences in the different ethnic groups.

Responses to the safety issues surveyed demonstrated an overwhelming positive response to the recommendation of car seats. Not shown in this illustration were the regional differences (see Figure 4). The regional differences showed a slight increase in the southern states to this recommendation. The southern states do have the highest incidence of auto fatalities in children. This would appear to be a reflection of the pediatricians in that region responding to an increased need to make their population aware of car seat safety.

The issue of smoke detectors is also shown with a minimal positive response (Figure 4). There were regional differences to the smoke detector issue with an overwhelming positive response in the northeast. However, in the west there is a significant negative response; this is the region in which house fire fatalities are lowest. The midwest showed

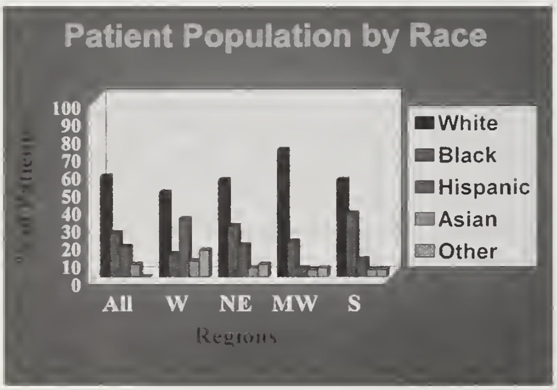

Figure 1

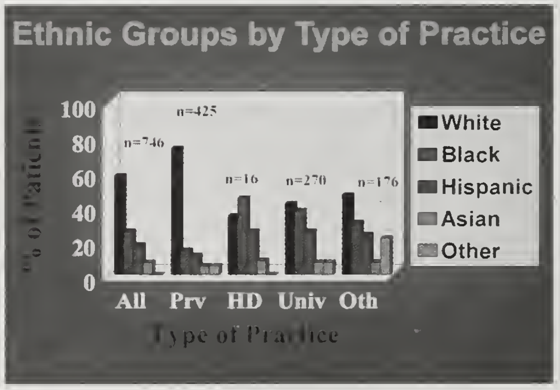

Figure 2

a minimal positive response, and the south had a minimal negative response. The south and the midwest had the greatest fatalities due to house fires as found in a previous study.[4] Differences here are most likely related to the economics of the populations studied. With the midwest and south showing high fatalities to house fires, it is difficult to blame cultural differences as the cause of these findings. The midwest and the south are two regions in this country that could potentially benefit, should pediatricians provide increased awareness to the importance of smoke detectors.

Also disclosed was the overall response to discussion of drowning. There were regional differences to the drowning issue with greater positive response in the western states and the southern states. As indicated from previous studies accidental drowning is more frequent in the west and the gulf states.

The last issue was gun safety. Here, there was an overall negative response. Not shown were the regional differences, which were consistently negative throughout the country. However the response was slightly less negative in the south. As stated in a previous study,[4] a higher incidence of accidental gun fatalities in southern regions of this country is recognized. This could be a reflection of more pediatricians in the south seeing a need for such awareness in their population. Gun safety is a topic in which all four regions could benefit from increased intervention through education.

Figure 5 shows the response to the question of the role pediatricians see for themselves in their delivery of health care to the adolescent. The overwhelming response was positive, with 75 percent of respondents reporting that they felt they were competent to care for adolescents. In the same figure the response to the presence of a training program is also shown. These two issues showed good correlation, however the major explanation for competence with adolescents, as expressed by the respondents, was experience.

The four issues examined in adolescent medicine were eating disorders, STDs, depression, and substance abuse. The results of questions of the eating disorders suggested that the more this issue was discussed, the more likely that a treatment plan was offered. There appeared to be a tremendous correlation with the likelihood of treating STDs when these issues were discussed. With depression and substance abuse, adolescents need to discuss these issues whether or not they are treated or referred. If such issues are not discussed by pediatricians this population may seek medical care from other practitioners. These issues are important, as seen by responses by subspecialists in adolescent medicine (Table 1).

The study indicates that most pediatricians agree that their adolescent patients deserve confidentiality. The lowest positive response was found in

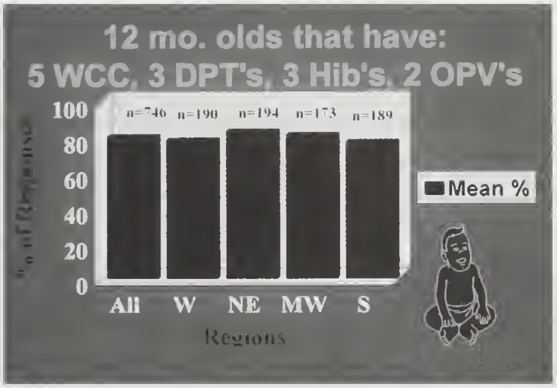

Figure 3

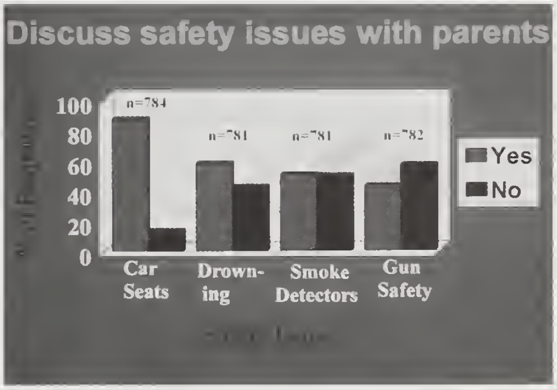

Figure 4

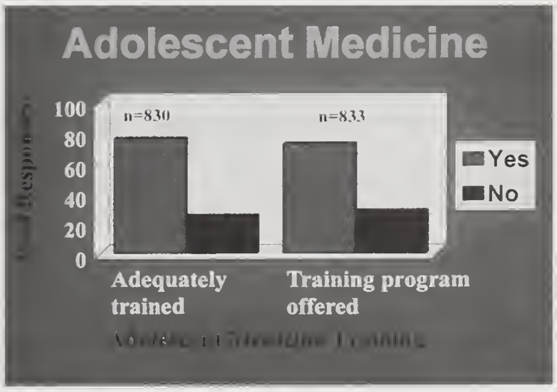

Figure 5

WELL CHILD CARE

Continued from page 21

the midwest, which is most likely a reflection of more conservative values in this region. The confidentiality issue was expressed with a condition that such confidentiality could be maintained so long as the adolescents were not a danger to themselves or others. This issue was consistent in the four regions cited.

CONCLUSION

As can be seen with regard to well child checks, the pediatricians surveyed showed remarkable consistency in their responses to most of the items of question. Differences were most prevalent depending on the type of practice setting and population served. KMS

Dr. Rocha is a pediatrician at Med Kansas Pediatrics in Wichita.

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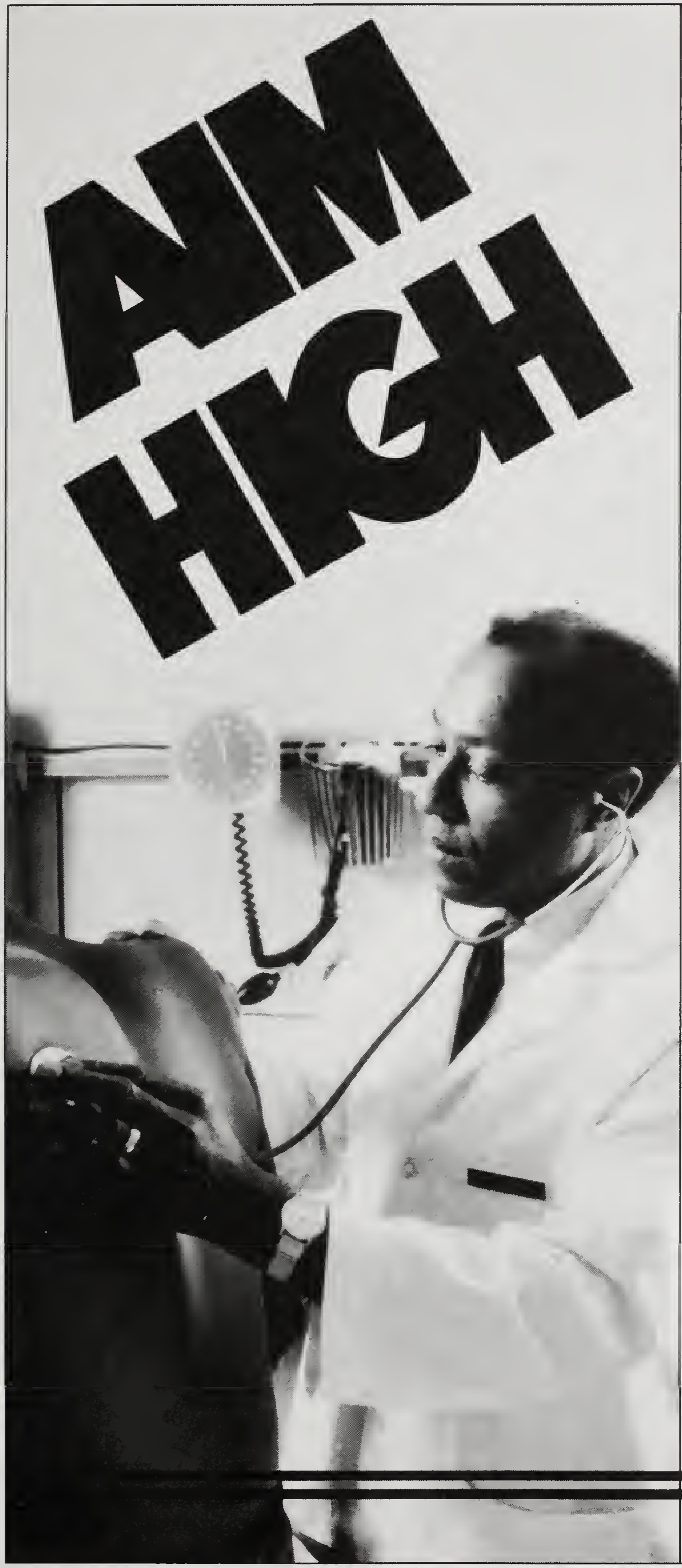

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AIR FORCE

Recent developments in the management of osteoporosis

As life expectancy increases, it is important for practitioners to focus on preventing morbidity among the elderly. Osteoporosis and its complications, including fracture, acute and chronic pain, and functional limitation, is one of the most pervasive and debilitating illnesses of the elderly.

A recent consensus conference defines it as "a systemic skeletal disease characterized by low bone mass and microarchitectural deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture."[1] Our current understanding of age-related, hormonal, and micronutrient effects on bone metabolism has led to comprehensive management plans in an attempt to arrest and reverse the disease process while maintaining and restoring patients' function.

CLINICAL FACTORS AND DIAGNOSIS

The development of osteoporosis is affected by age-related and postmenopausal alterations in bone metabolism as well as diseases and drugs which accelerate bone loss throughout the life span. While this combination places females at greater risk due to lower peak bone mass and accelerated loss at menopause, males are at risk as they age. By 75 years-of-age, 30 percent of all men will have osteoporosis. Thus, all elderly patients should be considered at risk.

While clinical risk factors are well known (see Table 1), definitive diagnosis can only be made with the occurrence of typical atraumatic fractures or with bone density measurement. Although the role of bone density measurement continues to be controversial, there are several generally held indications:

- High-risk patients (e.g. chronic steroid use, renal disease, hyperparathyroidism, Grave's disease)
- If the patient and physician are unable to come to a decision about postmenopausal hormone replacement therapy (HRT) in a patient who is otherwise a good candidate
- To monitor therapy

After testing the following treatment guidelines can be used:

- If bone mineral density (BMD) less than one standard deviation (SD) below young normal mean no treatment is needed
- If BMD is 2.5 SD or more below young normal mean, HRT or other treatment should be recommended
- If BMD is between these limits, repeat testing 2-5 years later

PREVENTING OSTEOPOROSIS

The adage "an ounce of prevention . . ." was never more true than for osteoporosis. Even for the elderly who are well beyond the time of peak bone mass, prevention of further bone loss and fracture remains a viable pursuit.

Hormone replacement therapy (HRT) is the treatment of choice for the prevention and treatment of females with osteoporosis. A number of well designed studies have shown that estrogen therapy for postmenopausal women slows bone loss for at least as long as the woman continues therapy.[2] While it is recommended to begin HRT as soon as possible after the menopause, it is now known that postmenopausal women derive a relative benefit (for the duration of therapy) even when initiation of therapy is delayed.[3] Studies to date have used the oral formulation with the recommended dose of 0.625 mg/day of conjugated estrogen combined with Progestin 2.5mg daily or 10 mg/day for 12 days of the month. The choice of estrogen type and dosing method (cyclic

TABLE 1: RISK FACTORS FOR OSTEOPOROSIS

- ✔ Age
- ✔ Female gender
- ✔ White or Asian race
- ✔ Family history
- ✔ Early menopause
- ✔ Low body weight
- ✔ Small stature
- ✔ Low calcium intake or impaired calcium absorption
- ✔ Physical inactivity
- ✔ Smoking
- ✔ Alcohol (excessive)
- ✔ Caffeine (excessive)
- ✔ Drugs (e.g. steroids, dilantin, excess thyroid hormone)

or continuous) should be made in accordance with the patient's medical history and preferences. Concurrent supplementation with calcium and vitamin D has been shown to help patients derive maximum benefit.

That HRT should be offered to all women without contraindications (history of thromboembolism, liver disease, breast cancer, or suspicion of endometrial cancer) is widely maintained. Compliance, however, is generally poor with a main concern being the possibility of developing breast cancer. Several large studies are in progress and should provide information soon.

Calcium has also been shown to provide benefit.[4] All women who are not taking estrogen and men over 65 should consume 1500 mg/day. Because calcium absorption may decrease with aging, dietary deficiency is common. It can be especially marked in those with lactose intolerance. While dietary sources are preferred, inexpensive supplementation can be provided with calcium carbonate taken with meals.

Vitamin D has been shown to have a positive effect on bone mass and fracture rates.[5] In the elderly, sub-clinical deficiency is common and should be suspected in all homebound elderly and nursing home patients whose sunlight exposure is limited. Most multivitamin preparations contain the RDA of 400 IU/day.

Other preventive measures include avoidance of dietary toxins such as alcohol, tobacco, and caffeine. Regular physical activity that includes weight bearing has been shown to provide increased bone density and increased muscular strength and balance with a decline in falls.[6] Fall prevention with gait training and addition of assistive devices (walkers, canes, etc.) should also be provided.

TREATING OSTEOPOROSIS

Following the diagnosis of osteoporosis, one should consider additional agents. Calcitonin can be used for men and as an alternative treatment for women who cannot or choose not to take HRT. Its antiresorptive effects are weaker than estrogen and it has not been shown to increase the BMD of the hip. Calcitonin recently became available in an intranasal form which is more economical and easier for patients to use than the injectable form.

A recently approved agent is a third-generation bisphosphanate called alendronate. Alendronate has been shown to reduce the risk of hip and spine fractures by decreasing the rate of bone resorption.[7] The suggested dose is 10 mg a day. Gastrointestinal side effects are common. Since it is not an estrogen, persons with a risk of breast cancer can be treated with alendronate. Information about the long-term effects of alendronate is not yet available.

In summary, osteoporosis is a disease that affects and debilitates a large proportion of the elderly population. Management plans should include preventive measures such as estrogen replacement, adequate calcium and vitamin D intake, weight-bearing exercise, avoidance of known toxins, and fall prevention. Such measures can help patients decrease their rate of bone loss and fractures. For those needing treatment, alendronate, in combination with calcium and vitamin D, has shown an ability to increase bone density and reduce fractures. KMS

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MANAGEMENT OF OSTEOPOROSIS

Continued from page 25

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Just plain good

Dwight K Oxley, MD

Laboratory Test Handbook. 4th edition.; David S. Jacobs et. al.; Lexi-Comp, Inc., 1996

THIS EXTREMELY USEFUL BOOK, Laboratory Test Handbook (LTH), now in its fourth edition, is probably the single best quick resource for information about laboratory tests. This remarkable achievement is the result of two major features: the way the book is organized, and the quality of its references.

LTH has two principal indexes, an alphabetical index and a keyword index. If you know the name of the test you want to look up, e.g. parathyroid hormone in serum, the alphabetical index locates it for you. If you want a synopsis of potentially useful tests in a patient with hypercalcemia, use the key word index and you will find some 19 tests, further classified with regard to clinical importance. If the keyword happens to be a condition which has an ICD-9 code, as hypercalcemia does, this code is also listed, a feature which will be important to physician office support staff. Both the alphabetical and the keyword indexes are comprehensive. I have yet to find an important test or condition that has been left out. Moreover, the lists are sufficiently redundant that you can find, for example, the page for PSA by looking up PSA or looking up Prostate Specific Antigen. In addition to these major indexes (major in the sense that they will be the most used) there is also an extremely complete list of acronyms and abbreviations and an index of laboratory-related CPT codes. The comprehensiveness of the indexes and cross-references means that entries are easy to find, and the user of the book does not need to know in what section of a laboratory a test is usually performed.

Even before I was asked to write this review (and thereby receive a free copy) I had purchased two copies, one for home and one for the office, because I use the book so often.

Another organizational feature which appeals to me is the extensive use of tables in the text. From lists of cluster designations (CD) of lymphocytes to the revised classification of vonWillebrand disease, the authors present tables organized to clarify important distinctions and minimize the mind-numbing effects of the laboratory jargon found in other books.

The only technical details in LTH are those important in the physician's office setting, i.e. how to obtain the specimen and any special handling. There is essentially no discussion of laboratory methodology.

A useful medical book must be based on current references, and LTH also excels in this attribute.

Virtually every substantive statement is referenced, and the references I have checked are accurate and current. These authors do not ask the reader to accept their personal experience as the only validation for a recommended test or an interpretation, having been misled in the past, I find comfort in this.

Who should own this book? Almost any physician who uses laboratory tests will find the book helpful, and will get the information more quickly than in any other book I have seen. Staff members responsible for ICD-9 codes will also find it useful. LTH is a 1⅞" thick hardback book that consists of 825 full-sized pages, but it is accompanied by a more compact, 1 ½" thick, 1142 page (half-page size) paperback which could conceivably fit into a large pocket of a lab coat. The concise version has the same information as the larger book (at least in those entries I checked), but has smaller print, less extensive indexing, no CPT codes, and fewer literature references. Even before I was asked to write this review (and thereby receive a free copy) I had purchased two copies, one for home and one for the office, because I use the book so often. Action speaks louder than words. At $55.75 (hardback version) on today's market, this is a must buy. KMS

Dr. Oxley is the Chairman of the Pathology Department at Columbia-Wesley Medical Center in Wichita.

A peek at the future of psychiatry in Kansas

Sheldon H Preskorn, MD

The ancient Greeks believed that the gods would steal a man's mind if they truly wished to curse him. Today, we realize that it is disease and not the gods which steal the mind but the curse is no less real. The brain is the organ of the mind. Until recently, the rigid vault which encases the brain has both protected it from injury but also has prevented medical science from understanding how brain diseases (e.g. schizophrenia, major depression) "steal" the mind.

There are three major research approaches which hold great promise for increasing our knowledge about the nature of brain pathology underlying these and other major psychiatric illnesses. These approaches are molecular biology, rational drug development, and brain imaging. These three are complimentary and together hold the promise of broadening the breach in the wall of ignorance which has so far prevented a more fundamental understanding of the nature of psychiatric disorders.

Using molecular biology, it's now possible to map the human genome. One third of the human genetic material has been estimated to code for brain specific proteins. Through the human genome project, these genes will be isolated and identified. That will lead to several lines of research.

One will be to determine whether defects in these genes cosegregate with specific psychiatric syndromes. This research holds the greatest hope for refining psychiatric syndromes like major depression and schizophrenia into biologically meaningful subtypes. Current psychiatric diagnoses will almost undoubtedly be found through such research to be heterogeneous conditions when understood from the perspective of pathophysiology. Such heterogeneity has complicated genetic linkage studies as well as almost all other types of psychiatric research.

Identification of genes as risk factors or sole causative agents for certain subtypes of psychiatric syndromes should lead to simpler, more reliable, and earlier diagnosis. It will become possible to identify susceptible individuals before they become clinically ill, making preventive strategies feasible. Such strategies might be as simple as dietary changes as in phenylketonuria, to more complicated interventions such as gene replacement therapy.

Genes can also be made to express their products in purified form. That will facilitate the structural and functional characterization of the brain specific proteins they encode. With such information, the necessary functions they subserve in the brain can be better understood. In addition, knowledge of gene structure will permit the development of drugs to interact in specific, predetermined ways (e.g., agonism, antagonism, inverse agonism). Such drug therapy could be used diagnostically or as a form of preventive treatment, or to restore or maintain functioning when prevention was not possible.

> ***The ancient Greeks believed that the gods would steal a man's mind if they truly wished to curse him. Today, we realize that it is disease and not the gods which steal the mind but the curse is no less real.***

Rational drug development became feasible in psychopharmacology over two decades ago. Drugs are developed to affect the desired target and to avoid affects on undesired targets. The desired target might be, by way of example but not limited to, a receptor, enzyme, uptake pump, or an ion channel. By knowing the structure of the target, a drug can be better designed to stereoselectively interact with that target but at the same time to avoid affects on unnecessary targets. Effects on nonessential targets generally causes unwanted adverse effects without contributing to the beneficial effects of treatment. On occasion effects on undesired targets also can produce serious toxicity. Thus, the goals of rational drug development is to produce drugs which maintain or improve on the efficacy of older treatments, have a better tolerability profile, a wider therapeutic index, and less risk of pharmacodynamically mediated drug-drug interactions.

As mentioned such development is not science fiction but instead already science fact. The first area to materially benefit from such development is antidepressant pharmacotherapy. Over the last decade, eight new antidepressants have been marketed in the United States. The serotonin selective reuptake inhibitors—SSRIs—e.g., sertraline, fluoxtine are the first class of successfully developed psychopharmaceuticals. These drugs were developed to inhibit the neuronal uptake pump for serotonin like the tricyclic antidepressants (e.g., amitriptyline, imipramine) but also to avoid affecting a number of neutral and non-neutral mechanisms that mediate both the nuisance and the serious adverse affects of the tricyclic antidepressants. Understanding this fact is essential to understanding and optimally utilizing these new drugs. It is the reason why the SSRIs as a class are better tolerated, have a wider safety margin, and less risk of causing pharmacodynamically mediated drug-drug interactions. It also explains why they are so similar in terms of how they affect the brain and why pharmacokinetics and differential effects on P450 enzymes have become the essential distinguishing characteristics among the SSRIs.

Brain imaging research is using a variety of enhanced imaging techniques to visualize both the structure and function of the normal and diseased human brain. Two major techniques include magnetic resonance imaging and positron emission tomography. The former has been used more to visualize structure while the latter for function. However, that is now changing since paramagnetic antibodies can be used with magnetic resonance imaging to tag probes, such as drugs, to determine where they go in the brain and under what conditions. Using these imaging techniques, researchers can take a picture of brain thinking, remembering, sensing, and planning. These techniques can be used to see how psychiatric disorders affect the brain by comparing such pictures from normal individuals versus those afflicted with specific psychiatric syndromes, or pictures from patients when symptomatic from their illness versus when they are in remission, or over the course of their illness if it follows a progressively deteriorating course.

Advances in any one of these three spheres (i.e., molecular biology, rational drug development, and brain imaging) will compliment and enhance advancements in the other two. Advances in molecular biology can identify targets for which stereoselective drugs can be developed. Molecular biology will also define more homogenous populations in which the efficacy of new treatments can be tested. These drugs can be used as ligands for brain imaging studies in homogenous patient groups as defined by molecular biology techniques. This knowledge will also permit the more rational and effective integration of educational and counseling treatments with somatic treatments to achieve the maximal restitution of functioning for the patient.

The researchers at the Department of Psychiatry at the University of Kansas School of Medicine-Wichita and its affiliated Psychiatric Research Institute (PRI) at Via Christi Regional Medical Center in Wichita have been active in such cutting-edge research for over the past decade. Every new antidepressant marketed in the United States has been studied at PRI as part of the necessary research to receive marketing approval. Studies at PRI have also included work with drugs to treat a range of anxiety disorders, senile dementia of the Alzheimer's type, schizophrenia, and seizure disorders. Through such research, Kansans in Wichita and the surrounding area have been able to receive the advantages of investigational drugs which have been developed using cutting-edge research techniques. These same Kansans by their participation have also helped to make such treatments available to their fellow citizens throughout this country and the world. Drugs which are now virtually household words like Prozac were studied in Wichita before they were available on the general market.

Participation in such research is free to patients. That includes workup necessary to ensure that the patient has a condition that may benefit from the treatment under investigation, the follow-up visits, any laboratory tests required by the treatments protocol, and the medication itself. Patients generally stay under the care of their personal physician. The research physicians and staff at the PRI are essentially consultants to the personal physician and the patient for this aspect of their care. The physician may contact PRI directly to learn about the treatment protocols currently under investigation.

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A preventive case analysis of tuberculosis cases occurring in Kansas in 1994

Few diseases can rival tuberculosis as a consistent killer over the past 63 centuries of recorded history. Often referred to as "consumption" or the "white plague" tuberculosis was particularly prevalent in large cities, at one point causing approximately 20 percent of all deaths in England and Wales during the seventeenth century.[1] Since Robert Koch isolated Mycobacterium tuberculosis in 1882, understanding of the organism's survivability and contagiousness has increased.[2] Antibiotic therapy, though long and difficult, has proved effective throughout the twentieth century and made the goal of elimination attainable.

Despite the many advances in the fight against TB, this ancient disease is experiencing a renaissance. In the United States, the number of reported TB cases decreased from 84,304 in 1953 to 22,201 in 1985, an average annual decline of 5.8 percent. The steady decline in the number of reported TB cases in the United States stopped in 1985.[3] Between 1985 and 1992, approximately 51,700 more cases were reported nationally than would have been expected had the downward trend continued. These cases were predominantly present in people of racial and ethnic minorities, men and immigrants, ranging in age from 25 to 44 years.[4] This increase has been attributed to a number of factors including:

- The onset of the AIDS epidemic with an increase in the number of immunocompromised individuals who are highly susceptible to developing active TB
- immigration of foreign-born persons from countries where TB has a high prevalence,
- increasing difficulties in accessing medical and social services within urban areas,
- inadequate resources for TB control programs,
- incomplete treatment of active TB cases, and
- incomplete follow-up of contacts of known TB cases.[5]

Introduction

Kansas has experienced a 33 percent increase in the reported active TB cases since 1992 (KDHE, Tuberculosis Section). The preventive case analysis purposes were to determine whether or not there had been missed opportunities to provide preventive therapy to people with TB infection prior to active TB disease and to document the level of contact between health care professionals and people with active TB diagnosed in 1994.

Methods

The target population for this analysis included all active TB cases diagnosed among Kansas residents in 1994 and reported to KDHE. A patient survey was developed to obtain information on TB infection or disease prior to 1994, how often contact took place with health professionals during treatment starting in 1994, and patient demographics. Information from a vital record review determined how many registrants had died. Surveys were mailed in October and November, 1995 to the remaining 79 registrants. Non-respondents were mailed a second questionnaire and further attempts to gather information were made by telephone. The KDHE Tuberculosis Tracking System was accessed for objective case data, such as site of diagnosis and treatment, and demographics.

Results

There were 84 cases of active TB reported to KDHE in 1994. By the time the survey was conducted, five were reported as deceased. Thirty-eight individuals of the remaining 79 responded to the repeat mailings and telephone interviews (response rate=48 percent). Non-respondents were more likely to be female, Hispanic males or African-American males. Among white females diagnosed with active TB in 1994, 63 percent did not participate in the survey, a percentage similar to that for Asian females but higher than that for African-American females. Among the male patients diagnosed in 1994, nine (82 percent) out of 11 Hispanic males and six (75 percent) out of eight African-American males were not surveyed. Therefore, the generalizability of the survey to these groups is questioned.

There were 55 (66 percent) male (incidence rate=4.4/100,000) and 29 (34 percent) female cases (incidence rate=2.3/100,000). The incidence rate of active TB in Kansas was 3.4/100,000, compared to 9.8/100,000 for the U.S. The median age for the Kansas registrants at the time of TB diagnosis was 38 years (range: 1 to 93) in 1994. Fifty-four cases (64 percent) were white (incidence rate=1.6/100,000), 22 (26 percent) were Asian (incidence rate=69.3/100,000) and eight (10 percent) were African-American (incidence rate=5.6/100,000). A review of ethnicity revealed that 67 (80 percent) patients were non-Hispanic (incidence rate=2.8/100,000) and 17 (20 percent) were Hispanic (incidence rate=17.0/100,000). Fifty-four (64 percent) patients were born in the United States and 30 (36 percent) were not. Of those patients not born in the United States, 20 (67 percent) immigrated from Asian countries, 8 (27 percent) immigrated from Latin America, one (3 percent) immigrated from Afghanistan, and one (3 percent) from Indonesia.

Missed Opportunities for Preventive Therapy. Four (10.5 percent) of the 38 survey respondents said that they had known of TB infection prior to active TB disease. Only one of these patients reported completion of preventive therapy. Two clients began therapy, but were non-compliant and refused to continue treatment and one never began preventive therapy. The following sections focus on the treatment of the tuberculosis cases diagnosed in 1994.

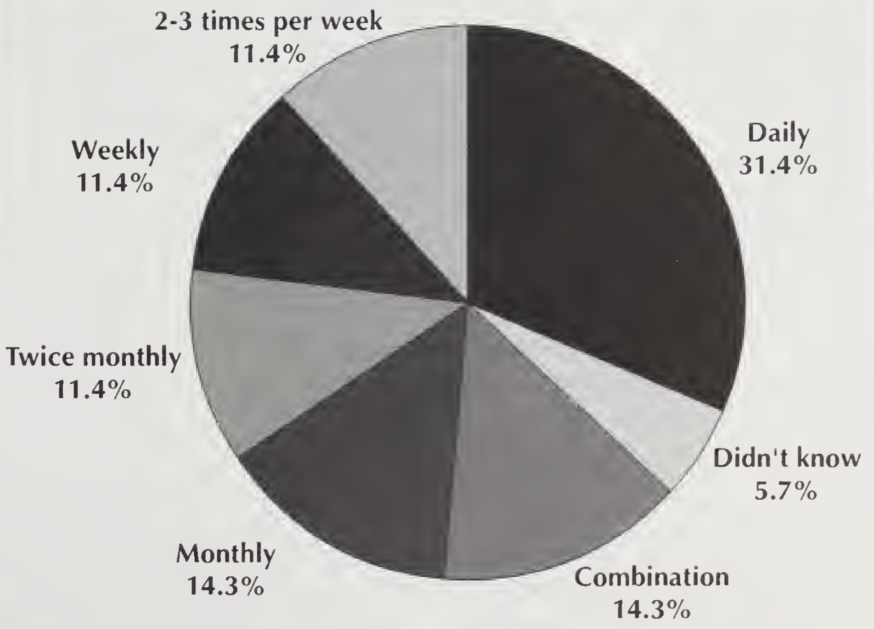
Site of Treatment. Information from the Tuberculosis Tracking system on where TB diagnosis and treatment was received in 1994 was available for 81 (96 percent) out of the 84 registrants. The majority of patients (56 percent), received treatment at a local health department, although diagnosis often took place elsewhere. Another 26 cases (32 percent) had received their treatment for tuberculosis from a combination of sites, such as the local health department, private physicians, self-care, or hospital/student clinic. Only two cases received their treatment solely through a private physician's office.

Level of Contact and Anti-tuberculosis Treatment. Completion Figure 1 presents the level of contact between survey respondents and health care professionals during anti-tuberculosis treatment. Of the 35 people who answered the question, 11 people (31.4 percent) reported daily contact with a health care provider, four people (11.4 percent each group) reported either contact two to three times per week, once a week, or twice a month, five people (14.3 percent each group) reported either contact once a month or a combination of the above, and two people (5.7 percent) answered that they "don't know" the level of contact. According to the TB Tracking System, 69 (82 percent) out of 84 patients successfully completed therapy or were still receiving treatment at the time of this study.

CONCLUSIONS

Four (5 percent) of the 84 cases of active TB reported in 1994 had indications for preventive therapy prior to active TB diagnosis. Only one of these individuals reported completion of preventive therapy. This indicates the continued need to monitor patient adherence to therapy and ensure therapy completion through appropriate treatment and incentive programs.

REPORTED FREQUENCY OF CONTACT WITH HEALTH CARE PROFESSIONALS DURING ANTI-TUBERCULOSIS TREATMENT



TUBERCULOSIS

Continued from page 31

For those patients whose adherence to preventive therapy may be questionable, DOT twice a week is recommended at a dosage of 15 mg/kg. (Isoniazid is usually given in a single daily dose of 300 mg/d for adults on a course of preventive therapy.)

About half of the surveyed patients diagnosed with active tuberculosis in Kansas in 1994 reported receiving a high level (greater than one visit per week) of contact with health care providers during their anti-tuberculosis treatment. This may explain the high level of completion of therapy (82 percent) documented, which was higher than the national average of 75 percent. For people at risk for not completing anti-tuberculosis therapy, structuring the shortest and simplest course of therapy possible may enhance therapy adherence and completion of treatment. In order to achieve the therapy completion goals for 1995-1996 (goal=90 percent completion), KDHE suggests the following level of contact between health care providers and patients when referred to a local health department for their TB therapy:

> **New active TB patients should be assigned to a specific health department employee responsible for monitoring the patient's treatment through Directly Observed Therapy (DOT). This usually entails an initial contact level of twice weekly.**
>
> **When resources for DOT are not available, contact at least once a month, either in person or by phone, is recommended.**

While the incidence of active TB in Kansas was almost three times less than the U.S. rate in 1994, the rate has been increasing.[6] Data from 1995 indicates a six percent increase in the number of new, active TB cases diagnosed in Kansas compared to 1994.[7] TB control efforts by health care professionals in both private and public practice include detection of TB infection, completion of preventive therapy by eligible patients who are infected but do not have active disease, and working with active TB patients to ensure completion of therapy.

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Submitted by Margaret Dolan Rockwood, MS, MPH for the Office for Epidemiologic Services and Tuberculosis Section, Bureau of Disease Control, Kansas Department of Health and Environment (KDHE).

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Lectures

Arthur Hertzler, MD

The Horse and Buggy Doctor *was written by Arthur Hertzler, MD, a Halstead physician. It recounts the practice of medicine as it was during Hertzler's career. The piece is reprinted with permission from the Hertzler Foundation.*

TEACHING BY LECTURES had the advantage over the study of ponderous textbooks in that the lecturer was able to stress the important points as these had been emphasized to him in actual practice. Fortunately the number of instructors was small, sixteen in all. Old Alma Mater now has something like four hundred. The thought of it makes one shudder. This increase is accounted for in large part, however, by the fact that instruction is now given to small groups while in our day one lecturer addressed the entire class. In great part, also, the addition of the number of teachers is required because of the increase in the number of subjects now being taught. This is particularly true of the laboratory branches. For instance, we had a few lectures in the young science of bacteriology but no laboratory work whatsoever. Nowadays, many small courses are given, too numerous to mention, and too brief to make it possible for the student to learn anything worthwhile about them. I presume these subjects might be called "cultural," because they cannot possibly do more than acquaint the student with the fact that there is such a subject. It does have the value that in case any student should become interested in it any time in the future he will know there is such a thing. Such superficial courses only detract from the things worth while. The latest of these courses is medical sociology. The next course, I predict, will be a course in medical hemstitching or doily making. These courses will be valuable in enabling the doctor to contact the neglected ladies. This statement is not made in derision. It is evidence of the foresightedness of those professors of Greek who outlined the medical course as it is taught today.

One of the reasons the medical lecture has gone out of style is that there are no longer lecturers of the old type; researchers are seldom eloquent speakers. Since most researchers wear spectacles, that is another handicap. Spectacles, like false teeth, are likely to become disarranged if the lecturer reaches flights of oratory. It has been demonstrated that the wearing of glasses is compatible with the relatively machine-like tasks of playing second base, but an orator wearing glasses is unthinkable. Also, those accustomed to hairsplitting reasoning are usually deadly as speakers. This is not said in disparagement. To be oratorical it is necessary to deal only with the most superficial of facts, if any, as the politicians abundantly demonstrate, while the researcher must weigh each bit of evidence carefully. I give place to no man in the appreciation of the medical researcher but his problems are not for the medical student. Researchers should be quarantined both for their own good and the good of the student. I speak sympathetically because I have dabbled at the border lines myself, but I never mentioned them to my students. The fact should be recognized that the average doctor never does catch up with what the researcher is doing. We doctors should be spared the agony of the scientific delivery room and should be allowed to hold the baby only after the nurse has him all polished up and dressed. KMS

President's address, 1895

This address first appeared in the official proceedings from the KMS meeting held May 16-17, 1895

MEMBERS OF the Kansas Medical Society: The knowledge of the truth is essential in the case, as the end of litigation is not always justice, not-withstanding the medical profession is the most absolute, the most progressive, the most positive of any of the professions. However, it is true that to know all of the sciences thoroughly is impossible to anyone, no matter how brilliant he may be, but a familiarity with the sciences may be expected of him. But as the physician is the most neglected of any of the professions from a legislative standpoint, he is in the whole course of his duties often exposed to ill-timed and often unjust criticisms, and as the law now stands may be called to defend his reputation by one who has nothing to lose and everything to gain.

The discussion of the civil relations of the physician involves not what is usually taken for granted, the ignorance of the physician of his duties to the public, but the ignorance of the public as to its duties to him—an ignorance constantly increasing through our philanthropy.

It has been said, "the physician no longer towers above the community as a member of that famous aristocratic triumvirate of the first three decades of the present century, the 'parson,' the 'squire,' and the 'doctor,' and he has not kept pace with the commercial progress of the day." While there may be no American physicians who are heard with such respect on social and economic questions as were Dr. Rush and the medical signers of the Declaration of Independence, or universally accepted as an oracle on legal medicine as was Hippocrates in his day, does not indicate to me in any sense a decline in the medical profession, or that the "doctor" has fallen below the "squire" or the "parson." If we are on the decline it is on the line of legislative neglect; we have aimed to keep pace with the commercial progress of the day, and if we have failed to progress in this particular, it is because we have conducted our practice too much as a philanthropic pursuit.

The profession, while maintaining its hold, is the prey of the venal press, of the shyster lawyer, the demagogue judge and their creation, the blackmailer, because of our philanthropy and the resultant general opinion that the profession is the slave of the beck and the call of the debt-dodging community. The notion that the profession is the unpaid abject slave, is further shown in the demand for the gratuitous expert and autopsy services. The sole presumptive evidence for the widespread claim that the profession is affected by public use is the jury-exemption privilege. This exemption has far from the wide-reaching significance that is generally given to it. The demand for gratuitous statistics is one expression of this opinion that the profession must furnish such statistics gratuitously; yet, as a rule, courts have not sustained the claim that the profession must furnish such statistics gratuitously. The principle (on which reports of contagious diseases are demanded) is based entirely on the police power of the State, and is binding on the physician to the extent of an ordinary citizen, but no more. He, however, incurs greater civil responsibility in the event of his non-report or neglect of quarantine. The crucial test of how far the State's power extends in contagious diseases has never been applied since the venereal diseases are as yet not embraced in the contagious diseases acts. The profession is not affected with a public

PRESIDENT'S ADDRESS, 1895

Continued from page 35

use except where other public demands may interfere with the specific use in certain instances. The jury-exemption privilege is of the benefit of the public, not of the physician, hence this exemption creates no right by the State to further duties as compensation, and demands for gratuitous expert services and autopsies are entirely unconstitutional and illegal.

The Kansas Medical Society has a duty here in common with its other duties in organizing the State profession. It should urge upon every society affiliated with it the necessity for a standing committee devoted to the civil relations of the profession in connection with allied purposes. Another fact cited in evidence of a public use affecting the practitioner is the sacred nature attached (to the common law, according to Judge Field of the United States Supreme Court) to professional confidence, whether under the common law principle (as Judge Field claims), or under specific statutes (which contradictory decisions of judges have led legislatures to enact), the privilege can be waived only by the patient himself. It is simply an extension of the beneficent common law axiom (under which torture was always illegal under English law) that no man can be compelled to incriminate himself. By demand for an itemized bill in a suit for services the patient expressly waives (under numerous decisions) this right. Hence, professional confidence is no evidence of the public use affecting the profession. The disagreement in consultations should teach the medical man that disagreement by itself is no evidence either of lack of skill or dishonesty. And the disagreement upon the witness stand is often not duly accredited by the judiciary, which should have a better consideration by them, as two-thirds of the cases submitted to the supreme courts, or courts of appeal, the English-speaking world over, disagree, sometimes equally, which goes to show that a year's evening study of law in a legal sundown "diplomamill" does not make a mediocre intellect an omniscient master of science, as Judge Doe, of New Hampshire, long ago held that in scientific questions judges should proceed on the evidence alone, and when they set themselves up as witnesses they should be sworn and cross-examined. The judicial cant about expert disagreement, too often echoed, received an apt judicial rebuke, as when the New York Court of Appeals scored shyster-made law, otherwise judicial dicta. Much understood as is Pope's wrongly applied dictum anent doctors of theology:

"Who shall decide when doctors disagree,
And soundest casuists doubt like you and me."

Yet even the disagreement of theology far from equals the disagreement of doctors of law.

Every medical witness needs protection against cross-examination scurrility, as medical men as a rule are honest in their opinion, earnest in their desire to tell the exact truth, and to arrive at a clear and just understanding of the case—thinking first of the good they can accomplish in the case before them. They are as a class self-sacrificing, and I believe it is strictly true to say that when they go on the witness stand they have a strong desire to tell the truth in the best possible way and without partisanship or bias. However the opinion of a medical witness is based frequently upon technical evidence, which cannot be explained to those not educated in his line of thought, and with a hypothetical question the changing of a single word will give grounds for medical experts to differ. The popular idea in the profession is to have the experts appointed by the court in cases of not exact solution, and should be chosen entirely by the judges from legally qualified practitioners of at least five years' practice, in good standing in the specialty they practice. The selection of physicians in good standing implies a proper medical practice act. This depends on its value to the public and its permanency on the flexibility of its definitions and of the absence from it of ex post facto elements.

The opinion of the physician should be given on the evidence of both State and defense embodied in hypothetical questions. They should know nothing of the case other than as evidence, and should be, as the law contemplates, excluded from testifying as to the facts. They should be subject to cross-examination, by both State and defense, but such cross-examination should be limited to the matters embodied in the hypothetical case. Legislation along this line would gradually develop officers of the court who would be free from bias and would occupy a truly judicial position. However, under the constitution, the accused cannot be denied the right to call an expert. In civil cases a similar class of court officials would be created, independent by the experts called by either side. When an expert has made a personal examination he unconsciously acquires a personal bias, "an opinion in the case" which legally incapacitates him for the judicial position of a "friend" of the court. Some beneficial results would be accomplished in this way. The restoration of the expert to his position of amicus curiae. And in criminal cases, therefore, the expert would be required, if he conscientiously can, to accept an explanation consonant with innocence, in place of constituting himself a species of prosecuting attorney to find evidence sufficient to convict, in lieu of science.

Also, there would be a decrease in the abuse of cross-examination, finally preventing assaults on the physician's reputation by baseless, irrelevant innuendoes, not consistent with the tests of knowledge. While in some jurisdictions there are constitutional and statutory provisions for the payment or compensation to medical witnesses as experts in addition to the usual witness fees, and providing a fund for that purpose, no such provisions seem to exist in this State. Physicians being exempt from jury service in the interest of the public, should be exempt as well from attendance on the trial of a case as a witness, beyond that of any ordinary witness. He should not be required to testify as an expert without securing what his time and services are reasonably worth, and the Legislature should provide that before a medical witness should be required to testify as to his peculiar knowledge, he should be permitted to demand and receive his fee as an expert, the amount thereof to be fixed by law. The law of evidence in criminal cases requires guilt to be proven beyond a reasonable doubt; in civil cases preponderance of testimony only is required. A source of great evil and danger to the profession is of precedents, and we should be watchful of letting precedents being established, since justice distorted against the guilty afterwards oppresses the innocent. There is no legal obligation on the part of a physician to obey a call. If he does obey one call gratuitously, he is legally bound to attend a case so long as his care is needed, or until he be dismissed or gives due notice. Two cases not entirely creditable to the medical man concerned settled the principle that contracts for medical services are ordinary contracts and voidable by the violation of the terms of contract. Two surgeons (one in Hagerstown, Md., the other in Chicago, Ill.,) were called upon for treatment of wounds received in a street fray. Both asked if the patient was prepared to pay; upon an affirmative reply, both dressed and sutured the wound. Upon non-payment both cut the sutures and were arrested for assault. Both were acquitted on the ground that they were within their strict legal right in so doing. The physician is hence not bound to attend gratuitously the poor, but if he so does, he is bound to use due diligence in his treatment of the case, while the patient, on the other hand, is bound to be frank about his case and follow medical directions.

The medical profession should be protected by a proper and efficient law for the collection of their fees. This should be done not only in the interest of the profession, but on behalf of the people as well. Our ranks are full of heroic and self-sacrificing men full of the milk of human kindness, who are ready and willing to attend all calls whether demanded by the opulent and wealthy or the poorest of God's creatures. When a physician gives his time, living and skill, at all times, day or night, without regard to the conditions of the elements, he should have some assurance of obtaining compensation therefor. With the liberal exemption laws of this State, there are many who are rarely able to pay and yet could not be compelled to do so. I would think a law ought to be enacted providing that there should be no exemption of property from the payment of physicians' fees.

The medical practice act works best when the State University is essentially a supervisory body of all the educational interests of the State. In dealing with medical practice there is always several important medicolegal questions. The legal principles governing the question of civil malpractice stand as laid down in the leading case of Lamphier v. Philpos, by Chief Justice Tyndall: "Every person who enters into a learned profession undertakes to bring to the exercise of it a reasonable degree of care and skill. He does not, if he is an attorney, undertake at all events to gain the cause, nor does a surgeon undertake to use the highest possible degree of skill, as there may be persons of higher education and greater advantages than himself, but he undertakes to bring a fair, reasonable and competent degree of skill. And in an action against him by a patient the question for the court or jury is whether the injury complained of must be referred to a want of proper degree of skill and care in the defendant or not. Hence he is never presumed to engage for extraordinary skill, or for extra-ordinary diligence and care. As a general rule he who undertakes for a

PRESIDENT'S ADDRESS, 1895

Continued from page 37

reward to perform any work is bound to use a degree of diligence, attention and skill adequate to the performance of his undertaking; that is, to do it according to the rules of the art. And the degree of skill rises in proportion to the value and delicacy of the operation. But he is in no case required to have more than ordinary skill for he does not engage for more. A corollary of these rules is, that the physician must give proper instructions to his patient how to take care of himself, how to arrange a diseased or injured member, when any how to take any medicine that may be prescribed, what diet to adopt: and that in case the physician fails to give these instructions he is liable for any injuries that result from failure. The patient is bound to follow obediently all proper directions given him by his physician or surgeon, as to his diet, mode of life, time of taking and quantity of medicine to be taken, or the care of a diseased or injured member. Any disobedience of such directions which contributes to prevent a recovery, will bar him from his right of action for malpractice even though the medical man may have been somewhat negligent."

In this brief view of the civil status of the profession certain evils are evident and certain remedies obvious. The first step is proper local organization. To this end every county in the State should have its incorporated medical society, to which should be admitted every legal practitioner who does not adopt a sectarian title and abides by ordinary professional etiquette. Each of these societies should have a special committee devoted to the civil relations of the profession, for whose support a definite fund should be created. The functions of this committee should consist first of securing information on which to base future legislation. Unless based on data of value, such legislation is useless. To the same committee should be assigned the duty of regulating the fees of physicians for autopsies and expert services. Suitable cases should be selected for litigation and the results would so establish, both the principle and the fee, that county authorities would hesitate to refuse payment. The same procedure should be adopted in suits for malpractice. The physician should be supported by the committee, which at the earliest possible period should limit the time of bringing suit within a year. The same committee should prepare an act regulating expert testimony, along the lines in which such regulation is possible in the way already indicated. The legal status of medical claims being that of those of the artisan, it follows that the physician is entitled to the same lien. KMS

A moment of silence . . .

Rosemary B Harvey, MD

Dr. Harvey, 72, a retired Wichita physician who specialized in drug abuse treatment, died March 12, 1997.

She graduated from the University of Kansas Medical Center in 1949.

Charles C Underwood Jr, MD

Dr. Underwood, 89, a retired Atchison internal medicine physician, died May 10, 1997 in Emporia.

He graduated from the University of Kansas School of Medicine in 1932. He practiced medicine in Emporia for 51 years as a physician and surgeon. His practiced was interrupted in 1942 as he volunteered for medical military service during WWII. He was a medical combat veteran of European Theatre of Operations, and served near the front lines.

Dr. Underwood married Nellie Jones Hughes in 1933. She survives.

He was a member of Ball-McColm Post #5 American Legion in Emporia, Westminster United Presbyterian Church, Emporia Masonic Lodge #12 A.F. & A.M., Knights Templar and Arab Shrine Temple, Emporia Lions Club, and was a member of the Board of Directors for Didde-Glaser Inc. and served on the Board of Education in Emporia.

William L Votapka, MD

Dr. Votapka, 72, a Stockton family practice physician, died January 19, 1996.

He graduated from the University of Kansas School of Medicine in 1953.

The last word . . . on physician-assisted suicide

How has the recent publicity surrounding physician-assisted suicide affected your opinion of the topic?

The recent publicity surrounding physician-assisted suicide has shown me how important it is for physicians to maintain the moral 'high road' in a day when right and wrong, good and evil are only a matter of personal opinion. Not only is physician-assisted suicide wrong, it is also unnecessary. Since when did helping patients kill themselves become compassion? True compassion should lead us as physicians to tirelessly work to overcome the very real distress experienced by those who are suffering as they approach death. First do no harm.

Kevin Hoppock, MD
Family Practice; Wichita

Recent publicity has only served to re-enforce my opinion regarding physician-assisted suicide. These words when coupled together are immediately contradictory and much like the positive and negative ends of a magnet. My oath to relieve suffering is prefaced by 'first do no harm.' However, more basic to this is the concept of life, and that it is not ours to take, whether our own or someone else's.

Jace Hyder, MD
Colon/Rectal Surgery; Wichita

The safest and probably best road of caring for patients is to first preserve life and second, relieve pain. In the young and those with the best future, fight vigorously for life. In those with a dimmer future, fight less, consider the strong desire for death as a pathological state. Consider those who would terminate the lives of others as having a similar, related pathological state.

Perry M Schuetz, MD
Ophthalmologist; Great Bend

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6
The effect of a paraprofessional home visiting program on utilization of prenatal care

10
Incidents of acute appendicitis confirmed by histopathologic diagnosis

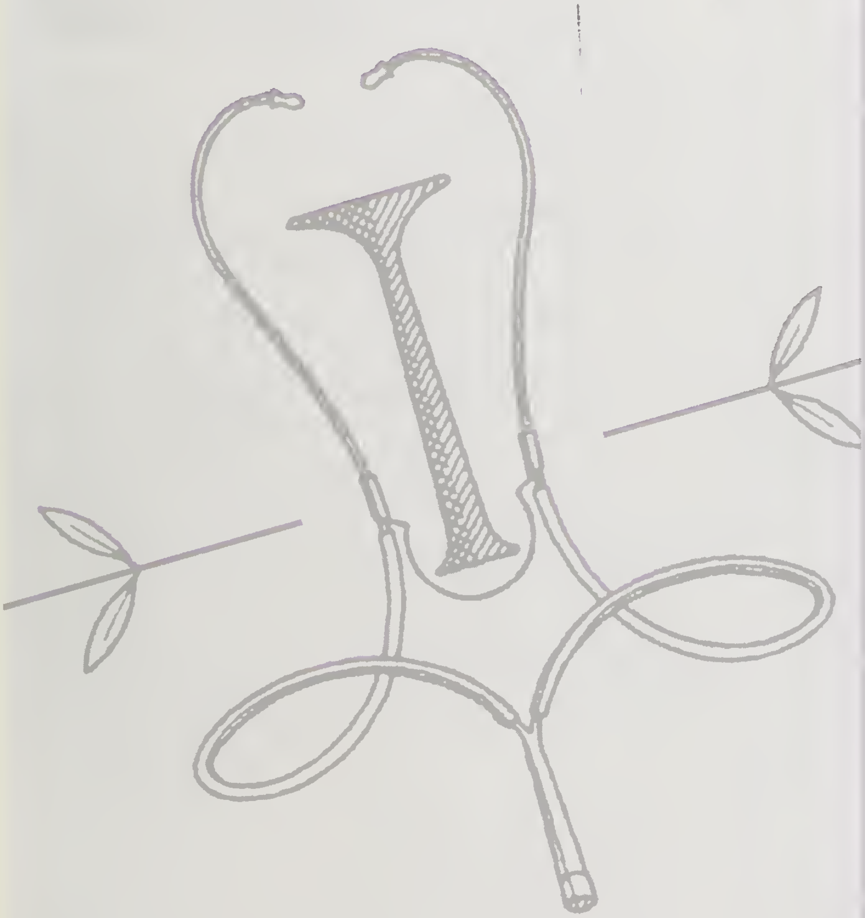
14
Patient visits to small rural emergency rooms

18
Insulinoma

20
Regionalization of trauma care: a necessity for Kansas

24
Serous cystadenofibroma arising in an ectopic ovary

47
Official proceedings of the 1997 House of Delegates



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SCIENTIFIC ARTICLES

The effect of a paraprofessional home visiting program on utilization of prenatal care 6
Incidents of acute appendicitis confirmed by histopathologic diagnosis 10
Patient visits to small rural emergency rooms 14
Insulinoma 18
Regionalization of trauma care: a necessity for Kansas 20
Serous cystadenofibroma arising in an ectopic ovary 24

ANNUAL MEETING

KMS President's inaugural address 41
KMSA President's inaugural address 44
Official proceedings of the 1997 House of Delegates 47
Report of the Editorial Board 52
Resolutions from the 1997 House of Delegates 53
Council District reports to the 1997 House of Delegates 63

DEPARTMENTS

Editorial Comment

On the other hand 3

Guest Editorial

Values 4

Your Older Patient

Dealing with grown children of elderly patients 28

Book Review

Review of the Nelson Textbook of Pediatrics 32

Horse and Buggy Doctor

Curriculum 36

The Rural Voice

Thoughts on surgical practice in a rural setting 37

KFMC report

Oral rehydration therapy for pediatric gastroenteritis 40

The Last Word

On improving health care 71

MAURICE AND LAU[illegible] BRARY
OF THE HEAL[illegible]NCES
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NOV 10 1997

On the other hand

Warren Meyer, MD

A RECENT FRONT PAGE story in the local press commented on the sudden consumer rush on St. John's Wort. Local health food stores were swamped with requests after "20/20" reported its efficacy in curing depression. Some of the shops reported running out of the medicament because of the increased demand. Lest you think this a temporary aberration on the part of your patients, let me share with you information on the subject of CAM (Contemporary and Alternative Medicine) gained at the Estes Park Seminar on "The Next Wave" indicating the direction health care will take or is beginning to consider taking at the present time.

The session, "Alternative and Contemporary Medicine – The Silent Tsunami," was led by Leanne Kaiser Carlson, a member of the International Health Futures Network (an alliance of leading health care futurists and pioneering organizations working to reshape health care). CAM is an industry that realizes an income of $13 billion annually.

According to statistics, which we can share with interested parties, fully one in three adults used some form of CAM in the past year. More importantly 72 percent failed to inform their physicians that they were involved in the practice or listed the medications they were taking. Those persons most likely to engage in CAM are affluent, highly educated, white individuals with minor complaints.

CAM is being aided not only by patient interest in and demand for these alternative styles, but by legislative action to mandate provision of these "services." Private insurance companies are now including them in some of their coverage plans. Recent physician surveys indicate that many doctors either offer some services such as manipulation, acupuncture, and homeopathy or refer their patients to non-medical practitioners.

CAM includes a wide variety of treatments: chiropractic, hypnosis, acupuncture, herbal medications (especially Chinese products), homeopathy, massage therapy, psycho-social support groups, etc. New Age Medicine, Holistic Medicine including various far Eastern religious aspects, and Natural Therapy are also included in this group. Have you noticed the number of herbal products in TV commercials lately?

About 32 medical schools throughout the U.S. have courses in these alternative therapies. The list includes: Yale, Tufts, Louisville, Stanford, Virginia, Maryland, Harvard, Johns Hopkins, Indiana, Rush Medical College, etc.

Arizona, northern Hawaii, and California (Another speaker at the Seminar referred to California as the "altered state") are, at present, the most active areas for such practices, but they are not alone. The use is spreading throughout America as more information flows through the media (note the "20/20" show).

An AMA survey has indicated that in ten years ten percent of all medical practice will be CAM because of: 1) increased reimbursement from insurance companies; 2) public demand will move CAM into the acute setting; 3) IPA's will be formed by alternative medicine providers; 4) national alternative centers will develop; 5) more than half the managed care organizations will reimburse for their services; 6) and referrals from physicians will be more acceptable for the reasons listed above.

While we may be worried about the potential hazards of these alternative therapies and feel that they should have to substantiate their claims in the same fashion that medicine is forced to do, be aware that there is a Center for Alternative Medicine Research sponsored jointly by Harvard Medical School and Beth Israel Hospital to scientifically study these methods and apply the same standards to them as to ourselves. If they will be listened to is another matter. (Remember laetrile and krebiozen?)

We all know that a tsunami is a tidal wave, but whether it will be a wave of promise or a wave of peril in this case remains to be seen. At least you've been warned! WEM KMS

Values

Spence Meighan, MD

Editor's note: Spence Meighan is an internist from Portland via Scotland. He is a faculty member of the Estes Park Institute and writes in an amusing yet insightful style. At the most recent Estes Park Institute Seminar entitled "The Next Wave" he put into the participant's notebook this editorial that appeared in (add the title of the publication). The seminar stressed values in health care that seems to be a rising concern in recent days. Dr. Meighan's editorial seemed so appropriate that we asked for and received his permission to reprint it for our members. Hope you enjoy it as much as we did.

“VALUES” IS A WORD THAT IS creeping into contemporary discussions about health care. Because values mean one thing to one person and something totally different to another, it is a good idea to grapple with some definitions before the discussions get out of hand.

Because values are hard to define, I asked one of my friends, “What is a value?” He said that there were at least two kinds–espoused and real. Espoused values are what we talk about initially when we meet with other nice people. Such values are always admirable, but the individual expressing them feels little or no sense of duty about actually carrying out the deeds implicit in the statements. The individual may express concern for the poor, disadvantaged or the chronically ill, but need not act on those concerns.

On the other hand, real values are actions. To determine what our real values are, therefore, we must look at how we live. If an espoused value is generosity, but we don't give much and instead try to amass wealth without sharing it, then our real values reflect a desire for riches–or even greed–but certainly not generosity.

And, of course, there are personal and organizational values. With organizational values, the concepts are similar to personal values in that the values of the organization are manifested in what it does. Quite frequently the mission and vision statements of the organization are quite different from the course of action it takes. The implications also are the same as for personal values–the real values of the organization show in its actions–in the deeds that are done, and not in the words that are spoken or bandied about.

VALUES CONFLICT

When the organization expresses values that conflict with those of individual physicians, then a values conflict exists. In the past, many physicians were self-employed and the values demonstrated in their practices were set by themselves and their staffs. It is a different story today, since many physicians are employed by, or are integral parts of, a much larger organization such as a managed care system or an insurance company.

In time past, the physician who would confront the insurance company or other financial organization would do so on behalf of the patient. But in today's world, the physician may well be an essential element of the larger organization. Does that physician advocate for the patient or for the organization? So long as the values of patient and organization are the same, all is well. But what about when they are different?

When the values of the individual and the organization do not coincide, the individual (the physician) must choose either to stand apart or to adapt to the organization's values. Neither option is satisfactory in many instances. If the physician chooses to adapt to organizational values, he or she may have to give up some personal values. If the physician decides to stand apart, insisting upon carrying out actions in accord with his or her own values, then the physician is placed at odds with the organization and risks separation from a promising financial endeavor. And one can stand apart from the group only on a limited number of issues before one is labeled a crank or a pariah.

The dilemma of choice is not made easier by understanding a philosophic doctrine called “the primacy of agency,” which dictates that an individual can represent only one point of view–for the physician, that means either the patient or the organization. We cannot represent both. From a philosophic standpoint, this doctrine places the role of “gatekeeper” in jeopardy.

The origin of many value conflicts is not hard to find–it is money. The transfer of risk from the payer to the provider is fundamental, as is the rise of managed care in which physicians are no longer independent entrepreneurs, but members of a group. In the interest of making the group more competitive by keeping premiums low, the emphasis is upon doing less rather than more to patients. Although many physicians are greatly concerned that quality of care will suffer, no major studies to date have corroborated this prediction. But while there must come a point when further reductions will cause a decline in the quality of patient care, this point has not been reached yet. So we must keep an open mind and assess the health care environment as it changes, without knee-jerk negative expectations.

THE FUTURE

So what of the future? A crisis of quality care is not yet upon us in spite of dire predictions from conservatives and " gray hairs." But what is happening is a shift of organizational values in which there is increasing concern for the health of the community, coupled with diminishing concerns for the individual. The shift is not easy for most physicians.

And what about our own values? It is obvious that we must put advocacy for our patients at the top of our list. To do otherwise is to break with our professional traditions and run contrary to our role in the eyes of the public. The doctor-patient relationship (an old term) is changing, but it cannot alter to the extent that we as doctors become agents for an organization in preference to our patients.

So what do we do right now? I have two recommendations. The first is that we find some reason for hope and optimism about our future. To lie in a world full of negative expectations is an unhappy circumstance. Furthermore, self-fulfilling prophecies have a way of coming true, so it's best that at least some of them might have a happy ending.

The other recommendation is that we examine our personal professional lives. Do our current values meet with the service needs of our times? How do we spend our time professionally? This examination will tell us what values we are expressing in our lives. If the examination is satisfactory, then we should reinforce these activities. But if our examinations show that we are not living in accord with our values, then we must make an effort to change our behaviors and make them acceptable to us. Our professional calling demands that we do so. As a consequence, we could answer a very fundamental existential question: "Am I growing into the kind of person that I want to be?" KMS

The effect of a paraprofessional home visiting program on utilization of prenatal care

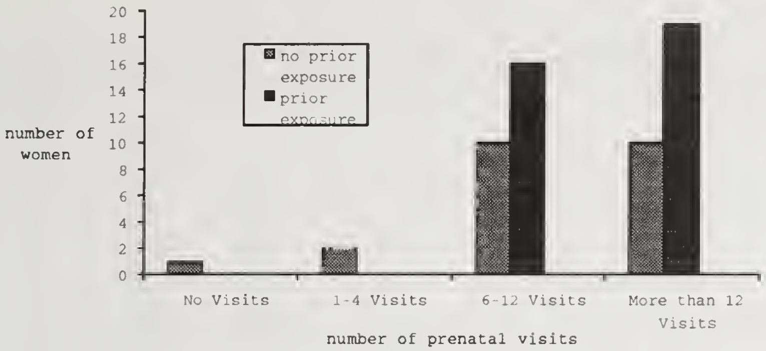
Timothy P Daaleman, DO

ALTHOUGH LOW BIRTH WEIGHT AND INFANT MORTALITY CONTINUE TO BE MAJOR HEALTH problems in the United States, there is a paucity of research on the improvement of health-related behaviors during pregnancy.[1] One behavior, patient utilization of prenatal care services, is particularly important, since women who receive inadequate prenatal care double their risk of having children that do not survive the neonatal period.[2] Despite federal and state initiatives developed to improve access to prenatal care services, the percentage of women who did not receive prenatal care increased from 1.3 percent to 1.7 percent in the period from 1980 through 1992.[3,4]

Community based lay home visiting programs have been advocated as one means of intervention to promote increased utilization of prenatal care services, particularly among women at risk. Several studies have demonstrated the effectiveness of paraprofessional home visiting in improving the receipt of prenatal care with an index pregnancy.[5,6] However, the impact of this intervention on prenatal care utilization in subsequent pregnancies is unknown but important, since multiparous women are more likely to underutilize care when compared to primiparas.[7]

This study examines the effects of the Kansas Healthy Start Home Visiting Program (HSHV), a community cased lay home visiting program sponsored by the Kansas Department of Health and Environment, on prenatal care utilization for multiparous women. The Healthy Start program was developed from federal and state seminal grants with an initial purpose to reduce child abuse and neglect. This preliminary goal has been expanded and the program now seeks to enable at-risk families to become healthier and more self-sufficient by improving access to early intervention services. All pregnant women, infants, adoptive families, and families who have lost a newborn are eligible for HSHV services. Families can be referred into the program through multiple sources (physician, hospital, social service agencies). The home visitor is an experienced parent with a minimum of a high school diploma or GED, who has undergone an orientation to home visiting under the supervision of a public health nurse. The role of the home visitor is to provide education, support, resource information and referrals to the family, in

Figure 1. Prenatal Visits For Multiparous Women Based on Exposure to a Home Visiting Program (N=58)



addition to screening for any current or potential problems. No childcare or transportation services are provided by the home visitor. All visits are reviewed with a public health nurse to excess for any necessary follow-up or referral.

It was hypothesized that women who had prior exposure to the HSHV program would present for prenatal care earlier and have more prenatal care visits in a subsequent pregnancy than women without such an exposure.

METHODS

A retrospective chart review was performed at the Topeka-Shawnee County (Kansas) Health Department. Multiparous women were identified through the Kansas Women, Infant, and Children (WIC) Program Master Visit Listing and verified by review of their postpartum WIC certification form. A sample of 173 women were initially enrolled and their health department records were examined. Subjects were excluded from the study if they had any prior participation in the Kansas Maternal and Infant Program (M&I), a preventative, comprehensive service which serves high risk childbearing women and infants. In addition, women were removed from the study if their chart was unavailable, unretrievable, or lost.

Sixty-two multiparous women remained eligible and were enrolled in the study. Two records, both of which were reviewed by the same public health nurse, were used as sources for the dataset. The WIC certification form provided the following variables for the studied pregnancy; age, parity, marital status, tobacco usage, education level, first prenatal visit (month of gestational age), and total prenatal visits. The HSHV visit report was used to verify a record of exposure to the program prior to the pregnancy. Any documented contact (phone call, home visit) was regarded as an exposure.

All variables were entered into a database using Epi-Info (Centers for Disease Control, Atlanta, GA). Both descriptive and inferential analyses were performed on the dataset.

RESULTS

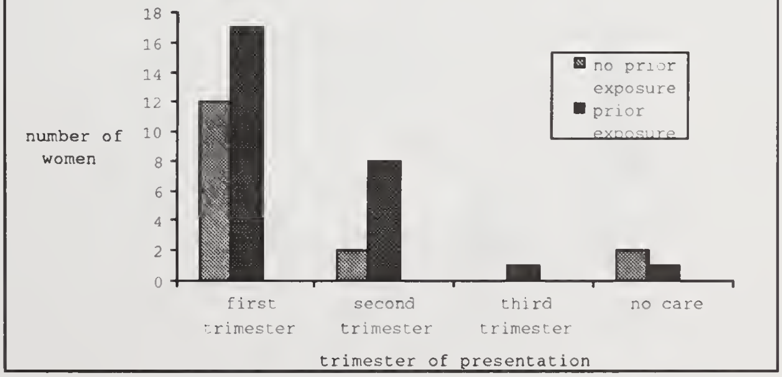
The age of subjects in the study ranged from 17 to 38 years, with a mean of 25.25 years and standard deviation of 4.88. Fifty-seven percent of the women identified themselves as being married, while 43 percent were single. WIC codes only two choices in regard to marital status, which consolidated responses for this variable. Nearly two-thirds (67 percent) of the women were white, 20 percent African-American, and 13 percent were Hispanic. Most women had at least some high school education, with a mean of 11.98 years of education, and a range of 6 to 19 years. One-third of the women used tobacco products.

Women who participated in the program averaged one home visit (mean 1.02) in the prior pregnancy. In addition, home visitors recorded a mean of 1.55 visits for the studied pregnancy. A majority of visits for both the prior and studied pregnancy occurred in the postpartum period.

Figure 1 depicts the effects of prior exposure to the HSHV program on the total number of prenatal care visits. WIC stratifies prenatal care visits per pregnancy into four categories; no visits, 1-4 visits, 6-12 visits, more than 12 visits, and these are reflected in the figure. Although not statistically significant (p=0.17), multiparous women with prior exposure to the Healthy Start program had more prenatal visits than non-participants. Prior participants comprised a greater number of the higher utilizers of prenatal care (6-12 visits and more than 12 visit groups). Women with no prior HSHV exposure were exclusively minimal or non-utilizers of care.

The influence of the home visiting program on the initial

Figure 2. Trimester of Initial Presentation For Multiparous Women Based on Exposure to a Home Visiting Program (N=43)



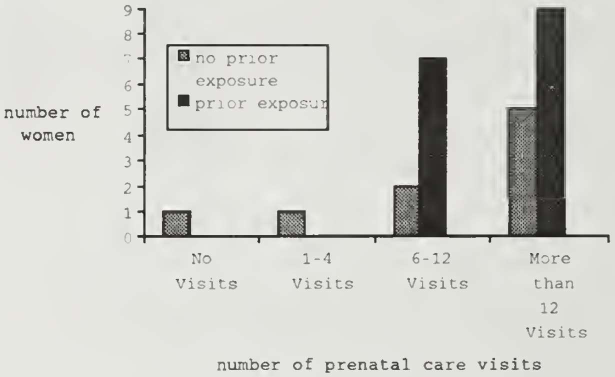
PARAPROFESSIONAL HOME VISITING

Continued from page 7

presentation of prenatal care is represented in Figure 2. Multiparous women with prior exposure to the program sought prenatal care earlier in a subsequent pregnancy than did women without this intervention. The small sample size in each cell contributed to the lack of statistical significance (p=0.36).

Single women were selected out as a subset of the database, since women with inadequate prenatal care are more likely to be unmarried.[8] Figure 3 depicts the effects of the HSHV program on total prenatal care visits for single women. The intervention group (women with prior exposure) tended to have higher utilization of care (p=NS). Minimal or non-utilizers of care were again comprised of the non-intervention group. Figure 4 reflects the effects of home visiting on the initial presentation of care for single women. Prior participants in the program tended to seek care earlier in a subsequent pregnancy than did nonparticipants (p=NS). Single women who had no prenatal care also had no prior HSHV exposure.

Figure 3. Prenatal Visits For Single Women Based on Exposure to a Home Visiting Program (N=25)

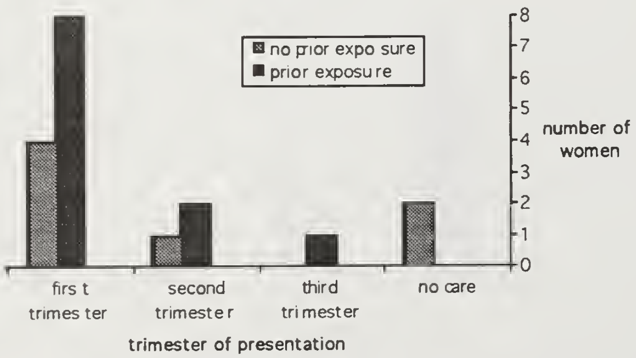


DISCUSSION

The purpose of this study was to examine the effect of an antecedent paraprofessional home visiting program on prenatal care utilization in a subsequent pregnancy. These results suggest that community based lay home visiting improves prenatal care utilization by multiparous women. Women who are exposed to such a program in a prior pregnancy appear to present for care earlier, and have more prenatal care visits than women who did not have a home visitor.

Research regarding the effectiveness of paraprofessional home visiting during an index pregnancy on the use of prenatal care services is mixed. Van Doorninck et al. [9] found that non-visited mothers had more prenatal visits than those who received home visitation. However three studies[10,5,6] noted that paraprofessional home visiting significantly improved the receipt of prenatal care. The lack of congruence in this area has been attributed to the interplay of countervailing effects.[1] Home visitors may promote the use of prenatal care by assisting women to identify early pregnancy complications. But home visiting can also reduce encounters through the improvement of health-related behaviors that are associated with perinatal complications.

Figure 4. Trimester of Initial Presentation of Care for Single, Multiparous Women Based on Exposure to a Home Visiting Program (N=18)



One key to the success of home visiting has been attributed to social support,[5] which is comprised of several components. Emotional intimacy with a reference individual or group has been demonstrated to influence health care utilization.[7] The size of the reference group, strength of emotional ties, and complexity and diversity of the social network are critical elements in social support. Although both married and single women who participated in Healthy Start had a greater receipt of prenatal care, the limited exposure (1 visit) to the home visitor does not support the development or maintenance of a reference individual or network. Many women who receive public assistance recognize negative attitudes among professional care givers.[11] Social workers and health care providers who are perceived as threatening, uncommunicative, and hostile contribute to a reluctance to seek prenatal care. Indigenous paraprofessional visitors can potentially facilitate positive interactions between client and provider, and promote increased utilization of care. In addition, lay home visitors may assist women in negotiating the complexities of publicly administered programs and the vagaries of multiple providers.

There were several limitations in this study. Due to the small sample size, the results were not statistically significant. This limitation also prohibited controlling for other variables that affect prenatal care between the two groups. Data collection was in a retrospective fashion which may have contributed to a recall bias by both patient and recorder. Finally it is unclear whether this study's findings are applicable to other groups.

In summary, these preliminary results support the hypothesis that exposure to a community based lay home visiting program in an antecedent pregnancy increases the receipt of prenatal care in a subsequent pregnancy. Future studies should include a prospective, case controlled design to test the validity of this early data.

ACKNOWLEDGEMENT

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Readers who would like a complete listing of sources utilized in this paper may contact Linda Ruiz at the Kansas Medical Society. She may be reached at 785.235.2383 or 800.332.0156.

Incidence of acute appendicitis confirmed by histopathologic diagnosis

Sudha Elangovan, MD, PhD; Deanna Parker Knapp, MA; Ken J Kallail, PhD

ACUTE APPENDICITIS IS THE ACUTE inflammation of the vermiform appendix. The etiology of this disease is unknown but its surgical treatment is well established. Increased numbers of acute appendicitis in young children[1] and a high degree of perforation in both young children and elderly[1-5] have been reported recently.

Despite reports of increasing numbers of acute appendicitis in some studies, the overall incidence of appendicitis is decreasing in the USA and Europe.[6-16] A wide variation exists in the incidence of acute appendicitis by gender[2,3,17-20], racial/ethnic groups[18-20], and geographic locations[20,21]. Few studies investigated acute appendicitis based on histopathologic diagnosis.[3,16,18] A case of appendicitis has been defined by various investigators through clinical impression, histopathologic diagnosis, appendectomy procedure, or the diagnosis reported on the discharge sheet.

The physician's index of suspicion for acute appendicitis is influenced by actual incidence rates and understanding of patient characteristics. This study investigated the incidence of acute appendicitis confirmed by histopathologic diagnosis. The following research questions were addressed:

1. What is the incidence of acute appendicitis, confirmed by histopathologic diagnosis, by age, gender, and race?
2. Are the rates of perforation, abscess formation, or gangrenous appendicitis different in people over sixty years of age?
3. Is there any association between the presence of fecalith and acute appendicitis or perforation?
4. What percent of clinical diagnosis of acute appendicitis correlated with the histopathologic diagnosis?

METHODS

The charts of all Sedgwick County, Kansas residents who underwent appendectomy or laparotomy for suspected acute appendicitis over a two-year period, January 1, 1990 to December 31, 1991, were reviewed. The cases were identified by ICD-9 codes. All cases with a clinical diagnosis of acute appendicitis

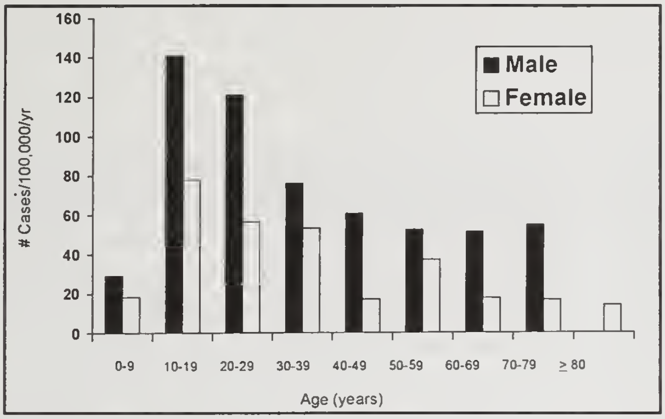

Figure 1: Annual incidence of acute appendicitis among different age groups by gender in Sedgwick County (Jan 1, 1990-Dec 31, 1991)

during the study period underwent appendectomy.

Sedgwick has the largest county population in the state and includes the largest city. All acute appendicitis cases were assumed to have been seen in one of the five Sedgwick County hospitals. The nearest equivalent referral centers are three hours away. Therefore, few residents, if any, having appendectomy outside the county were expected. All cases of acute appendicitis in patients who resided in another county were excluded.

Histopathologic diagnosis of the vermiform appendix was used to define a case of acute appendicitis and only cases of acute appendicitis confirmed by pathology report were included as study data. The remainder of cases revealed normal appendix with or without other diagnoses.

Incidental appendectomy data were obtained to calculate the population at risk and determine the adjusted annual incidence of acute appendicitis. Since no statistically significant difference was found between crude and adjusted annual incidences of acute appendicitis, only the crude annual incidence rates were reported (number of acute appendicitis cases/100,000 population/year).

Census data were obtained from the Metropolitan Area Planning Department (1990 census). Sedgwick County, Kansas has a population of 403,662 and a composition representative of the national population. Races were classified as Caucasian, Black, Hispanic, and other. Chi square and z tests were used to analyze the data.

RESULTS

A total of 593 cases of appendectomy or laparotomy for suspected acute appendicitis during the study period were reviewed. According to the reported histopathologic diagnosis, 466 (80.1 percent) cases had acute appendicitis, 20 (3.4 percent) had chronic appendicitis, 82 (14.1 percent) had no histopathologic diagnosis (normal appendix without any other diagnoses), and 13 (2.4 percent) had other diagnoses (e.g., carcinoid tumor, mucinous cystadenoma, intraluminal pinworms, infarcted appendix, fecal impaction, and lymphoid hyperplasia). The pathology report was missing in 12 cases. The normal appendix rate was significantly higher in females (z=-3.2; $p < 0.001$). Seventy-one percent of all acute appendicitis cases occurred in ages 10-39 years and only 7.7 percent in ages ≥ 60 years.

The overall annual incidence of acute appendicitis was 57.7 cases/100,000/year. The age-specific annual incidence (Figure 1) revealed that the highest incidence occurred in the second decade (109.9 cases/100,000/year) followed by the third (88.8 cases/100,000/year) and fourth decades (64.6 cases/100,000/year).

The gender-specific annual incidence rate of acute appendicitis was higher in males (76.9 cases/100,000/ year) than females (39.3 cases/100,000/year) and was statistically significant (z=241.7, $p < 0.001$). The age-specific annual incidence of acute appendicitis by gender revealed male predominance in all age groups up to 79 years (Figure 1). No cases of acute appendicitis were seen in males aged 80 and above during the study period. The male to female annual incidence ratio varied between 1.4 and 3.6 in different age groups.

Figure 2 shows the annual incidence of acute appendicitis in different racial and ethnic groups in Sedgwick County. Table 1 reveals that Caucasians had a significantly higher incidence rate compared with other racial and ethnic groups. No statistically significant differences in the annual incidence rate were revealed between blacks, Hispanics, and "other" races. Male predominance was maintained in all racial/ethnic groups (Figure 2).

Table 2 shows the differences

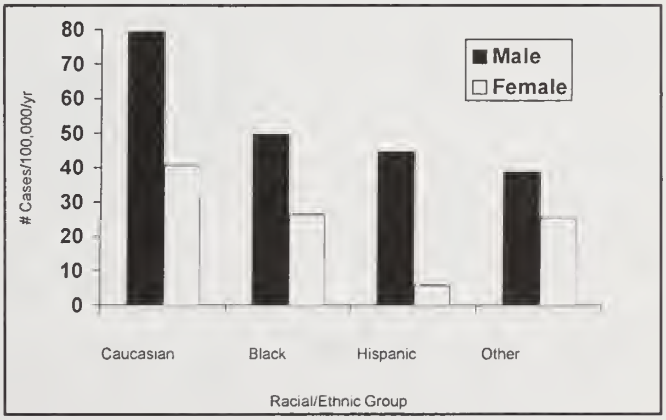

Figure 2: Annual incidence of acute appendicitis among different racial/ethnic groups in Sedgwick County (Jan 1, 1990-Dec 31, 1991)

ACUTE APPENDICITIS

Continued from page 11

TABLE 1: COMPARISON OF OVERALL INCIDENCE OF ACUTE APPENDICITIS BY RACIAL/ETHNIC GROUP

Ethnic groups	Cases/10^5/year	z	p*
White vs. black	59.5 vs.34.7	2.84	<.005
White vs. hispanic	59.5 vs.25.8	3.71	<.001
White vs. other	59.5 vs. 33.4	2.86	<.005

*Bonferroni correction of p based on multiple comparisons

between age groups for acute appendicitis with perforation, gangrenous appendicitis, abscess and presence of fecalith. A significantly higher rate of perforation and gangrenous appendicitis was observed among subjects ≥ 60 years. The rate of acute appendicitis with abscess or with the presence of fecalith did not change with age.

Only 14.5 percent of total cases (68 of 466) had a fecalith. No apparent causal association was revealed between the presence of fecalith and acute appendicitis. Even though the rate of perforation significantly increased in the elderly, no corresponding increase in the presence of fecalith was observed (Figure 3).

During the study period, 387 cases of incidental appendectomy were noted. The majority of these patients were females (74.4 percent). Incidental appendectomy occurred most frequently during gynecologic procedures (47 percent).

DISCUSSION

Since study cases were confirmed on the basis of histopathologic diagnosis, the actual incidence of acute appendicitis was obtained. Over-estimation of acute appendicitis or under-estimation of negative appendectomies could not occur. The incidence rate, therefore, is expected to be lower than reported by studies not using histopathologic diagnosis to define a case.

Even when compared to studies that based the diagnosis on the pathology report, the overall annual incidence of acute appendicitis in Sedgwick County, Kansas (57.7/100,000/year) was considerably lower. For example, Pearson[19] reported incidence rates of 116 and 121 cases/100,000/year over two consecutive years in New Haven, Connecticut. Pieper and Kager[3] reported a rate of 116/100,000/year in Sweden. The differences in rates between these studies and the current study may be due to a true lower incidence of acute appendicitis in Sedgwick County. However, other variables, such as differences in geographical area,[20,21] race,[18,20] diet,[10, 11] and use of antibiotics[7] also may account for the differences. Only one study from England that based the diagnosis on the pathology report showed a similar incidence rate (52/100,000/year) as the current study.[16]

Gender

Even though the incidence of acute appendicitis is consistently lower, the current study confirmed the gender-specific trends and peak incidence findings of previous studies.[2,3,8,17,20] The current study, however, is not consistent with the observations of Ashley[22], who reported no gender differences, and Lee[23], who reported a female predominance. Arnbjornsson[24] reported that hormones may play a role in the gender differences.

Race

Race-specific incidence rates for the current study generally agreed with those reported by Luckmann[18] and Pearson[19]. Incidence is highest in Caucasians and significantly lower in Blacks and Hispanics. Male predominance was noted in all racial/ethnic groups. Again, the current study revealed incidence rates that are lower than the earlier reports. The difference seen in racial/ethnic groups may be a result of socioeconomic factors[8],

TABLE 2: COMPARISON OF RATES OF PERFORATION, GANGRENOUS APPENDICITIS, ABSCESS, & PRESENCE OF FECALITH

	0 to 59 years of age	*over 60 years of age*	*Chi square*	*p*
Perforation	72	27	67.38	<.005
Gangrenous appendicitis	51	11	10.06	<.005
Abscess	14	3	2.44	.118 (ns)
Fecalith	66	2	2.56	.109 (ns)

access to health care[25], genetic factors related to immunity[10], and diet[9-11]. Further studies are needed to evaluate these factors.

Age distribution

Age distribution was maintained in the present study even though the incidence rates were lower than earlier studies. Acute appendicitis is predominantly a disease of the young. The mode was noted during the second decade as in some earlier reports.[9,17,26] The amount of lymphoid tissue also peaks during the second decade. It has been suggested hyperplasia of lymphoid tissue as a response to acute infection may cause obstruction and result in appendicitis.[27]

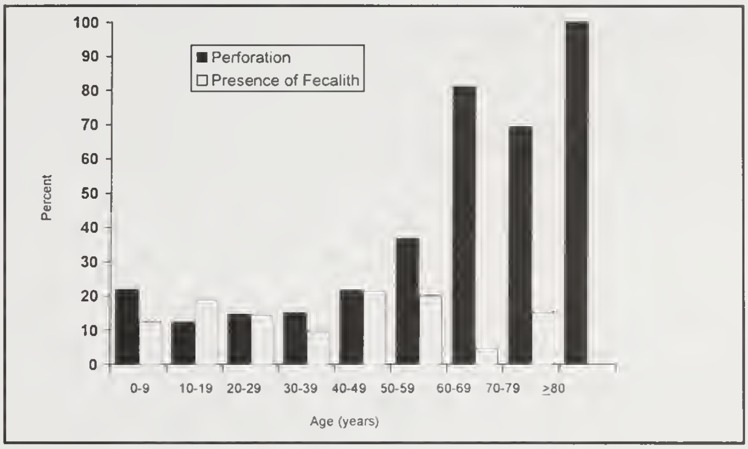

Figure 3: Percent of Perforation and Presence of Fecalith with Acute Appendicitis by Age (Jan 1, 1990-Dec 31, 1991)

Perforation & gangrenous appendicitis

Elderly patients ≥ 60 years have significantly higher rates of perforation and gangrenous appendicitis when compared to the younger population. Several etiological theories have been proposed to explain these differences, including mechanical obstruction[28], dietary fiber ingestion[9-11], familial susceptibility[29], anatomical variations[30], and infection[27]. The most common cause of appendicitis is considered to be lumenal obstruction and distal inflammation. The obstruction may be secondary to fecalith, a foreign body such as pin worms, hyperplasia of lymphoid tissue, or stenosis. Based on the current results, fecalith apparently is not a major cause of obstruction resulting in acute appendicitis.

No apparent casual association was found between the presence of fecalith and perforated acute appendicitis. While the rate of perforation was higher in the elderly, no corresponding increase in the presence of fecalith was observed. It is also possible that obstruction is not a causative agent of acute appendicitis but may develop as a result of inflammation.[31]

Normal appendix rate

The normal appendix rate in previous studies varied from 9 to 40 percent. [3,5,9,23,32] It has been thought that if the normal appendix rate is dropped too low there would be an undesirable rise in perforation. Further prospective studies are needed to define the normal appendix rate. This information would have an impact on cost effectiveness by decreasing the normal appendix rate in patients with marginal indications for operation.

Incidental appendectomy

There is disproportionally higher number of incidental appendectomies in females, because of gynecological procedures. This disproportion, however, did not have any influence on the incidence of acute appendicitis in females. Male predominance was noted even when incidental appendectomy numbers were excluded from the denominator.

SUMMARY

The annual incidence of acute appendicitis by gender, age, and race in Sedgwick County, Kansas was lower than values reported in most other communities. However, the trends of peak incidence during the second decade, male predominance among all races, and the highest incidence in Caucasians also were noted in the current study. The rates of perforation and gangrenous appendicitis were significantly higher in the elderly. No association was noted between the presence of fecalith and acute appendicitis or perforation. A better understanding of the etiology of acute appendicitis may explain the trends and differences in the incidence of acute appendicitis observed. KMS

Dr. Elangovan and Dr. Kallail are both associate professors in the Department of Family and Community Medicine, University of Kansas School of Medicine–Wichita. Ms. Knapp is the Director of Research administration, University of Kansas School of Medicine–Wichita.

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Readers who would like a complete listing of references may contact Linda Ruiz at 785.235.2383 or 800.332.0156.

Patient visits to small rural emergency rooms

Robert J Haskins, MD and Ken J Kallail, PhD

EMERGENCY SERVICES ARE PRESENT IN ALMOST ALL RURAL HOSPITALS REGARDLESS OF SIZE.[1] Differences in how rural is defined and diversity among rural regions complicate the analysis of literature on rural emergency room (ER) visits. What little information is available suggests few differences in patient care activities between urban and rural ERs.[2] Rural hospital staff assess and stabilize patients with severe trauma that is typical of that seen in large metropolitan communities.[3] The incidence of severe trauma, however, is not high and it is usually seen on an infrequent basis.[3,4] Rural ER staffing is usually provided by local physicians[5,6], usually family physicians, who tend to work longer hours for less pay then their urban counterparts.[7] With relatively few trauma cases, rural physicians may need additional training to gain and sustain trauma care skills.[4,8]

The purpose of this study was to investigate the emergency services provided by small rural hospitals in Kansas. Of particular interest was the number and types of trauma seen. These data have implications for the graduate medical education programs in states with large rural populations and for physicians who desire establishing a rural practice.

METHODS

All 78 hospitals in non-metropolitan Kansas communities of less than 5,000 with ER services were identified and each administrator was contacted by telephone to explain the investigation. Each administrator agreed to have the ER physician or nurse complete a postcard survey on 30 consecutive ER patients. Because of the small emergency room census of these hospitals[6], 30 consecutive patients provided a representative sample over several days without placing an extreme burden on the staff for data collection. The ER physician or nurse was contacted by telephone to explain the investigation and solicit voluntary participation. All agreed to participate.

Thirty postcard surveys were mailed in a bundle with written instructions to each hospital (a total of 2340; 30 surveys times 78 hospitals). The surveys requested the following information:

date of visit, age, sex, diagnosis, urgency of visit, type of visit, place of trauma, and procedures performed. Space also was provided for comments. Surveys were to be mailed individually after the data were collected.

The surveys were printed on the back of a postage-paid postcard. Patients could not be identified by the investigators from the survey information. However, the postcards were folded and taped to cover the data and maintain confidentiality in the community of origin, where only a few patients may be seen in the ER during any given week.

RESULTS

A total of 1822 completed surveys on ER patients from 63 hospitals were returned. Forty-four hospitals returned data on 30 patients as requested. Eighteen hospitals returned data on 16-29 patients; one returned data on 32 patients. Fifteen hospitals did not return surveys. All returned surveys were included in the following data analysis.

SUBJECTS

Male subjects represented 55 percent of all ER patients. As a group, male subjects were younger than female subjects (X^2=57.3; df=3; p < .00001). Twenty-two percent of all subjects were children aged 0-12; 13 percent were adolescents aged 13-20; and 22 percent were elderly patients aged 65-109.

Urgency of visit

A total of 62 percent of the ER visits were designated as urgent (55 percent) or life-threatening (7 percent). Approximately one-third of the visits (38 percent) were non-emergencies. Female subjects had significantly more non-emergent visits than males (43 percent compared to 34 percent; X^2=14.3; df=2; p< .0001). Also, significant age differences were revealed (X^2=28.8; df=6; p <.0005). Subjects aged 65 years and older had more than twice the number of ER visits designated as life-threatening than younger subjects (13 percent to 6 percent). They also had fewer non-emergent ER visits (33 percent to 40 percent).

Type of visit

Non-trauma related ER visits accounted for 52 percent of the total; trauma-related visits accounted for 48 percent. Fifty-seven percent of male ER visits were trauma-related. Sixty-three percent of female ER visits were non-trauma related. These differences were significant (X^2=69.7; df=1; p < .00001). Age differences also were noted (X^2=143.9; df=7; p < .00001). The majority of subjects aged 0-39 (58 percent) were seen for trauma. The majority of subjects older than 40 (68 percent) were seen for non-trauma related visits.

Place of trauma

Eighty-eight percent (775 of 877) of the trauma visits were designated by the place where trauma occurred. Significant gender differences by place were revealed (X^2=57.6; df=5; p < .00001). While the majority of trauma for both males and females occurred in the home, males were injured more often than females on the farm, at work, or during sporting activities. Females were injured more often than males in automobiles.

Emergency room diagnosis

Each ER diagnosis was placed into one of 23 categories. Table 1 shows the diagnostic category by the type of visit. One interesting note was that 79 percent of all ophthalmology visits (48 of 61) were trauma-related.

Twenty-three percent of the total number of ER visits consisted of superficial lacerations. This diagnosis was followed by fractures (8 percent), gastrointestinal complaints (7 percent), cardiovascular complaints (7 percent), and ear, nose, or throat complaints (7 percent).

Procedures performed or ordered

Laceration repair (n=334), x-rays (n=258), orthopedic procedures (i.e., fracture reductions, casting, splints, and braces; n=136), and electrocardiograms (n=57) were the most common procedures ordered or performed by physicians. Laboratory tests were excluded from analyses. The number of electrocardiograms was surprisingly low considering that 125 visits were reported for cardiovascular problems. Most other procedures ordered or performed by physicians reflected trauma (e.g., wound dressing and foreign body removal), cardiovascular disease (e.g., cardiac monitor and CPR), or respiratory disease (e.g, intubation and respiratory therapy).

DISCUSSION

A primary consideration for choosing the methodology was to simplify data collection for the rural hospitals. Using a small number of consecutive cases avoided many of the problems of obtaining longitudinal data over a longer period of time at multiple sites with low daily volumes. To further simplify data collection, ER personnel were not asked to record laboratory tests ordered, but specifically to record electro-cardiograms and X-rays.

The seasonal nature of farming activities, hazardous driving conditions, and local sporting events such as rodeos or softball tournaments could potentially change the incidence of trauma. No attempt was made to correlate conditions which

RURAL EMERGENCY ROOMS

Continued from page 15

could change the risk of trauma during the study.

When compared to national data involving all hospital emergency rooms[9], the present study reported more male patient visits (55 percent vs. 48 percent), more trauma visits (48 percent vs. 35 percent), more urgent/emergent visits (62 percent vs. 47 percent), and more patients 65 and older (22 percent vs. 9 percent). In both studies, each reporting hospital was allowed to determine the urgency of the visit without rigid guidelines. Because different pediatric age groupings were used, no direct comparisons could be made for pediatric or adolescent age groups, however, the results appeared similar. Comparisons between diagnostic categories were difficult to make because of differences in classification systems, but did not appear significantly different.

A study of 17 rural Mississippi hospitals averaging 12 patient visits per day (present study = 4.4 visits per day) reported that 30 percent of the visits were for injuries and 17.6 percent of all patients seen were over 60.[2] While comparisons by diagnosis could not be made, the present study reflected an increased incidence of trauma and an older population.

Thirty-one percent of all ER visits were for lacerations or fractures. The most common ER procedures performed by physicians reflected skills utilized for management of these injuries. Other common procedures ordered reflected the need for care for cardiovascular and pulmonary diseases. Perhaps even more significantly, the study demonstrated that a variety of injuries and illnesses is being cared for by physicians in these small rural hospitals. Most of the emergency room visits are for urgent/emergent trauma and medical conditions. Physicians need generalist skills for treating acute trauma and illness not limited by age, gender, or organ system. Unlike larger hospitals with radiologists, medical and surgical specialists and trauma teams, the rural physician is frequently the only physician in the community to evaluate, treat, and stabilize the patient.

An earlier study, involving the 78 hospitals identified in the present study, reported an average of 4.4 ER visits per day staffed by a medical staff of 2.9 physicians (37 medical staffs had only one or two physicians).[6] The average distance to the closest ER, usually another study group hospital ER, was 22.5 miles.

While the low average number of daily ER visits may be a justification for ER closure, it does not reflect increased ER visits for urgent care when community clinics are closed. More importantly, ER closure shifts all the responsibility for life-threatening conditions to local emergency medical services, largely staffed by volunteers with basic life support skills, who must transport all patients much greater distances.[10] Other patients with less severe yet urgent injury or illness would still need timely access to medical care. Those with limited means of transportation either from incapacity or access to private automobiles would have to wait “for the clinic to open” or inappropriately request emergency medical services transportation.

This study demonstrated that small rural hospital emergency rooms provide needed emergency medical services for a variety of trauma and non-trauma conditions. Physicians who staff these emergency rooms, primarily community family physicians, need adequate initial training. They confront the challenge of maintaining essential but sometimes infrequently used skills to manage a variety of emergencies seldom with immediate assistance from other physicians. Additional research is needed to determine the best way to support rural physicians and hospitals in providing this essential service while exploring alternatives to ER closure, reliance on ambulance service for 24-hour access, and the stress of prolonged emergency room staffing with limited assistance from other physicians. KMS

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TABLE 1: DIAGNOSTIC CATEGORY BY TYPE OF VISIT

Diagnostic category	Trauma						Non-trauma
	vehicle	*farm*	*home*	*work*	*sprts/rec*	*other*	
Fracture*	5	12	62	9	30	14	0
Burn*	1	7	14	4	1	1	0
Blunt trauma*	20	1	8	3	7	4	0
Major penetrating injury*	0	0	3	2	0	2	0
Superficial laceration*	44	25	194	44	37	18	0
Sprains/strains*	7	5	39	15	26	10	0
Cardiovascular	0	0	1	0	0	0	124
Dermatology	0	1	2	0	0	0	60
Endocrinology	0	0	0	0	0	0	16
Ear, nose, throat	0	1	2	0	1	1	112
Gastrointestinal	0	0	1	0	0	0	125
Gynecology	0	0	0	0	0	0	23
Hematology	0	0	0	0	0	0	5
Psychiatric	0	0	1	0	0	0	24
Musculoskeletal+	0	0	0	0	1	0	58
Neurological	2	2	6	1	1	2	87
Obstetrical	0	0	0	0	0	0	25
Ophthalmology	2	8	11	13	2	1	13
Respiratory	0	0	0	0	0	0	107
Urologic	0	0	0	0	1	0	60
Multiple trauma*	14	2	6	2	1	1	0
Bites and stings**	0	0	0	0	0	0	55
Other	10	0	1	0	0	0	50

*By definition, trauma only diagnosis; +Excluding sprains/strains; **By definition, non-trauma diagnosis

Insulinoma

Cheruvillil S Menon, MD; Rema S Menon, MD; Joseph L Kyner, MD; Arlo Hermreck, MD

INSULIN SECRETING ISLET CELL TUMORS, insulinomas, are relatively rare tumors,[1] that occur most commonly in women between the ages of 40 and 70 years.[1] Five to 10 percent of insulinomas are malignant. In 10 percent of cases multiple benign tumors are present. These tumors are difficult to detect by sonography[2] or CT[2] because of their small size. They produce significant blood sugar variations that cause behavior changes and other CNS disturbances. Often the patients are thought to have a primary psychiatric or neurologic disorder[3,4] prior to the correct diagnosis. Symptoms of chronic hypoglycemia are non-specific.[2] Fasting hypoglycemia with inappropriate serum insulin levels is essential for positive diagnosis.

CASE REPORT

The patient is a 47 year-old female, who had been a resident of Kansas State Hospitals most of her life, being profoundly mentally retarded and non-verbal. One afternoon she was brought to the hospital clinic as she was not walking erect, but leaning more to her left side. She walked only with assistance holding on to others. Impression at the time was lethargy/hemiparesis, and a probable hip, femor or knee bone fracture; but X-rays were negative for any bone pathology and neurological exam was normal. Laboratory assessment showed CBC and Chem profile to be normal except a glucose of 60 mg/dL (normal, 75-115 mg/dL).

On a subsequent day her fasting serum glucose (FBS) was 64 mg/dL and 4 PM serum glucose was 53 mg/dL. Con-comitant fasting serum glucose and serum insulin levels were 55 mg/dL and 42 micro. U/ml (Normal, 0-20 micro U/ml) respectively on another day. A glucose tolerance test (GTT) showed FBS 49 mg/dL, half hour 228 mg/dL, second hour 101 mg/dL, and third hour 44 mg/dL. Her urine was negative for glucose or ketone bodies at each of the above time intervals. GTT was discontinued and food given to prevent hypoglycemic sequelae. Regular snacks between meals and h.s. were prescribed to prevent hypoglycemia. FBS was 105 mg/dL on another day. An insulinoma or other insulin producing tumors were suspected and the patient was scheduled for an abdominal sonogram and CT of the abdomen. Abdominal sonogram was essentially normal but CT of the abdomen could not be performed as the patient was uncooperative.

The patient was then transferred to the University of Kansas Medical Center for evaluation and possible exploratory surgery. Low blood sugar levels of 45 and 39 mg/dL had inappropriately high insulin levels of 43.6 and 54.2 micro units/ml respectively. Insulin antibodies were absent, C-peptide was 1.6 (normal 0.5-3.0 mg/dL), and plasma glucogon 278 pg/ml (normal 25-250 pg/ml). A 72-hour fasting and blood sugar monitoring and insulin levels were planned, but not carried out. The patient was then scheduled for an exploratory laparotomy. She underwent resection of a pea-size tumor located superficially at the superior aspect of the head of the pancreas. The intra-operative ultrasound probe was placed over the pancreas and complete examination of the pancreas revealed no residual nodules. Tissue diagnosis by frozen section was consistent with islet cell tumor and microscopic diagnosis was benign islet cell tumor. The tumor cells were negative for pancreatic polypeptide. Electron microscopic study of the tumor cells showed intracytoplasmic neurosecretory granules with central crystalloid structures, confirming the neuroendocrine nature of the tumor and consistent with insulinoma. She recovered satisfactory from the surgery and her blood glucose remained in the 80-180 mg/dL range.

DISCUSSION

This patient never had any of the usual signs and symptoms of hypoglycemia such as diaphoresis, seizures, syncope, or tremors even at blood sugar levels as low as 28 mg/dL. Because of the patient's limited communication and mental retardation, symptoms such as irritably, confusion, disorientation, headache, and diplopia of hypoglycemia could not be assessed. She always was a poor eater, slender and weighed 100-102 lbs. The table below shows Accucheck values before and after surgery. Little improvement in her cognitive and communication ability or mental retardation was noted following the insulinoma resection.

TABLE 1: ACCUCHECK BEFORE AND AFTER INSULINOMA RESECTION

Day	8 a.m.	11 a.m.	4 p.m.	9 p.m.	
1	35	59	32	62	Before surgery
2	44	35	88	117	
3	66	47	80	66	
4	80		119		After surgery
5	74		90		
6	88		82		
7	72		86		
8	78		86		
9	77		83		

(Blood sugar mg/dL)

Severe hypoglycemia as a cause of neurological, mental, or behavioral change may be overlooked or not considered in institutionalized patients, particularly when they are already mentally retarded or non-communicative.

Repetitive or persistent hypoglycemia should prompt an evaluation for an insulin secreting tumor. KMS

ACKNOWLEDGEMENT

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Regionalization of trauma care: a necessity for Kansas

R Stephen Smith, MD

The leading cause of death for Americans in the first four decades of life is trauma. When all age groups are considered, trauma remains the third leading cause of death following cardiovascular disease and cancer. While the two leading causes of death in America usually affect a more elderly population, trauma is most frequently seen in younger patients who are in the most productive period of life. Because trauma strikes a predominantly younger population, more potential years of life are lost each year than from any disease. Additionally, while mortality rates for cancer, heart disease, and stroke have either stabilized or have decreased, mortality from trauma is increasing at the rate of one percent per year. Obviously, trauma is a major health care problem in the United States; many consider it to be the most important disease entity in America today. In some areas, only HIV-related deaths have increased more rapidly than deaths secondary to trauma in the past decade.

Each year, approximately 1500 Kansans die as the result of trauma. The national trend of increased mortality in younger age groups secondary to injury is strikingly prevalent in Kansas as 50 percent of deaths in children and adolescents aged 1-14 are due to trauma. Alarmingly, 82 percent of the deaths in Kansans between the age of 15-19 are due to either accidental injury or violence. The death rate for firearm injuries increased by 7 percent in the past decade [4]. Clearly, national efforts to improve trauma care are as relevant for Kansas as for any area of the country.

The intent of this review is to outline the advances that have been made in regionalization of trauma care in recent decades and to assess the possible impact of trauma care regionalization in the state of Kansas. Additionally, a possible system of regionalized trauma care will be outlined.

HISTORICAL REVIEW

In the 1960s, trauma was labeled the "neglected disease of modern society." Even though the American College of Surgeons formed a committee to address the needs of trauma patients in 1922, few advances in urban trauma care were made until recent years. As early as 1955, Zollinger assessed the care given to victims of motor vehicle accidents (MVA) and suggested that in many cases the level of care could be improved. Since that time, numerous investigators have suggested that many of the deaths secondary to injury would be preventable given optimal care. Numerous authors have documented that regionalization of trauma care systems improves mortality rates by reducing the number of preventable trauma deaths [12-16].

Regionalization of trauma care, in the simplest terms, calls for a system which provides for the transport of seriously injured patients to designated trauma centers. These centers are institutions which have shown a strong commitment to trauma care, including state-of-the-art technology (e.g., angiography and CT scan), the immediate around-the-clock availability of certain medical specialists (e.g., general surgeon, orthopedic surgeon, anesthesiologists, neurosurgeon) and a trauma team concept of care. This institutional commitment to quality trauma care is validated by strenuous review by local or state governments or the American College of Surgeons. Under the concept of a regionalized trauma care system, institutions unable to provide optimal trauma care may be bypassed so that the most seriously injured patients may be taken to a designated trauma center. An organized and coordinated plan for pre-hospital care of trauma victims is an essential part of a regionalized trauma system.

This concept of care differs significantly from the non-regionalized system currently in place throughout most of Kansas and much of the United States. Under systems of non-regionalized trauma care, the injured are transported to the nearest hospital regardless of the ability of that hospital to care for a critically injured patient. Numerous studies have documented the relative inferiority of non-regionalized trauma care. Bruser, in 1970, found that 25 of 119 deaths secondary to MVA in Canada could have been prevented if optimal trauma care had been given. Bruser also suggested that many of these victims of trauma could have been salvaged if they had received treatment in a trauma center. Lowe, in 1983, documented that 34 of 135 trauma fatalities in northwest Oregon were potentially preventable. Additionally, Lowe found that trauma mortality rates in hospitals with fewer than 200 beds were significantly higher than in hospitals with more than 200 beds.

Gertner et al, in a review of 33 vehicular fatalities secondary to abdominal injuries, found that 17 patients could have survived their injuries had optimal treatment been given. Most of these fatalities resulted from inadequate treatment of shock or significant delays in necessary operative intervention. Additionally, Gertner identified relatively high mortality rates in community hospitals which had a low volume of trauma cases.

Unquestionably, Kansas has vast areas remote from tertiary care facilities. Unfortunately, trauma care in rural areas is complicated by delayed accident reporting, lengthy transport times to medical facilities, unavailability of medical personnel adequately trained in trauma care, and the lack of well equipped trauma oriented medical facilities. Unfortunately, due to these factors, trauma care in rural areas is frequently suboptimal. In 1964 Walker et al reviewed rural trauma care in California. Results of this study showed rural traffic accidents accounted for 1.5 times the number of trauma victims when compared with the number of victims of urban traffic accidents. Alarmingly, rural traffic accidents caused four times the number of deaths when compared with urban accidents. In other studies, Foley et al and Houtchins have documented suboptimal trauma care in rural facilities. Obviously, providing optimal trauma care in rural areas presents difficult and challenging problems. However, less than optimal trauma care also exists in a number of urban hospitals with strong programs of tertiary and subspecialty care. The location of a medical facility in an urban area does not assure adequate trauma care. Trunkey and Lim, in a 1974 study of trauma care in the San Francisco Bay area, showed that preventable trauma deaths occurred much less frequently in a university - affiliated county hospital with a dedicated trauma service when compared with numerous tertiary referral centers in the same metropolitan area. In 1982, Trunkey surveyed trauma care in an eight county area surrounding San Francisco in which a non-regionalized trauma system was then in effect. Trunkey found that of 302 trauma deaths, 129 patients could have been salvaged had optimal trauma care been available.

Some of the most convincing data supporting regionalization of trauma care are offered by West and others in several papers which describe trauma care in Orange County, California. In 1979, West and Trunkey compared preventable trauma deaths in San Francisco (a regionalized trauma system) with preventable trauma deaths in Orange County (then a non-regionalized system). In San Francisco, only 1 of 92 trauma deaths was judged preventable. Conversely, in Orange County, 39 of 90 trauma deaths were found to be preventable with optimal care. As a result of the study, they suggested that trauma care is improved by regionalization. In subsequent studies following the institution of a regionalized trauma care system in Orange County, West et al showed very significant reductions in preventable trauma deaths primarily due to early recognition and treatment of potentially life-threatening conditions such as closed head injury and splenic laceration. Preventable deaths in some subsets of patients were decreased from 80 percent to 20 percent following the institution of an

TRAUMA CARE

Continued from page 21

organized countywide system of trauma care. Cales, in 1984, further documented the reduction of preventable trauma deaths in Orange County.

COMMENTS

In spite of overwhelming data supporting the concept that regionalized trauma care systems can reduce mortality secondary to trauma, Kansas, as well as much of the United States, has not proceeded with the institution of a statewide system of regionalized trauma care. In the limited areas of the nation with such systems, a predictable decrease in mortality secondary to trauma has been seen. It would seem appropriate for areas with non-regionalized systems of trauma care to begin to assess the advantages of regionalized systems.

In discussing the possibility of a regionalized system in Kansas with health professionals, several questions arise repeatedly. Many physicians acknowledge that the trauma center concept is effective in the urban setting, but question its feasibility in a rural state such as Kansas. Burns has shown that regionalized trauma care systems can be effective in sparsely populated rural areas. In 1985, Burns described the trauma care system of Manitoba, Canada. Manitoba has approximately one-half the population of Kansas with more than three times the area in square miles; yet, Manitoba has a regionalized system of trauma care which has equaled the level of care given in Baltimore, Maryland. Therefore, even though the rural setting may present special problems, it is not a valid excuse to retain non-regionalized trauma care. More recently, the Washington State Trauma Care and Emergency Medical Services Act of 1990 was signed into law. This act created the most detailed and inclusive statewide plan for trauma care now in existence.[18] This legislation is of significant interest because the state of Washington has many of the same problems with geographic and demographic heterogenicity which are present in Kansas.

Other health care professionals state that excellent trauma care is already given in the state's large community or university hospitals. While this may be true, Baker et al have shown that trauma care at the Yale-New Haven Hospital improved following the initiation of a dedicated trauma service. In one group of patients, mortality dropped from 27 percent to six percent. Thus, the formation of a trauma service markedly improves trauma care even in a major university hospital.

To provide optimal care to the injured patient, a regionalized system is essential. This system must include expert prehospital care, dedicated trauma centers, rehabilitation services, and a statewide trauma registry to continually assess care and identify correctable deficiencies in the trauma system. Additionally, the skills of health care providers involved with trauma care at all levels must be assessed and improved with postgraduate medical and nursing education programs. Frequent exposure to trauma-oriented continuing medical education should be made available to rural practitioners so that trauma skills could be maintained even with only occasional exposure to critically injured patients. Using the Manitoba system as a model, a regionalized trauma care system in Kansas might possibly include the categorization and designation of Level 1 or Level 2 Trauma Centers in the state's metropolitan areas (Wichita, Kansas City, and Topeka). Presently, there are only three trauma centers (Two Level 1 Trauma Centers, one Level 2 Center) in the entire state which have achieved verification by the American College of Surgeons review process. All of these are located in Wichita. Also, the only area of the state where specifically designated catchment areas have been assigned to designated trauma centers is in Sedgwick County.

Regional trauma services at institutions equivalent to Level 3 centers could be established in numerous smaller cities (ie, Garden City, Dodge City, Hays) with active community hospitals, particularly in predominantly rural western Kansas. Because large geographic areas of the state do not have immediate access to medium sized community hospitals or designated trauma centers, designation of Level 4 and Level 5 treatment facilities would be an important aspect of any statewide trauma system. The efforts of these facilities would primarily be directed toward the initial evaluation and treatment of acutely injured patients with subsequent transfer to a trauma center. Smaller hospitals or even clinic facilities could achieve Level 4 or 5 designation. To coordinate patient disposition and transfer, a statewide communication network would be essential. Level 1, 2 and 3 trauma centers with clearly defined geographic catchment areas could serve as base stations for this communication network and relieve rural practitioners from the burden of making numerous telephone calls to arrange transfer of critically ill trauma patients. Additionally, these base stations could communicate directly with EMS personnel in the field as well as air ambulance services to assure that trauma victims were triaged to the nearest appropriate facility. Grossman et al have recently demonstrated that a similar plan for trauma care system organization in a rural location resulted in a high level of care with low mortality rates.[20]

Interestingly, the medical community has not been a driving force in the establishment of regionalized trauma care in the areas of the United States where such systems now exist. Conversely, many in hospital administration and some physicians have opposed the establishment of such systems, primarily for the reasons of potential lost revenue or a lessened public image of hospitals not capable of trauma center designation. In fact, these concerns are not substantiated by the experience in other states. Even in densely populated urban areas with designated trauma centers and well developed trauma systems, the majority of injured patients (approximately 80 percent) are cared for in community hospitals with basic emergency rooms, while only the most severely injured patients are transported to trauma centers. Additionally, many trauma centers have found that the care of the severely injured patient is rarely profitable.

In most states where regionalized trauma systems have been developed, public demand coupled with political and legislative action have been required before regionalized trauma systems have been formed. One interesting exception is Manitoba, where the regionalized system of trauma care was planned, organized, and administered by the medical community without government intervention. While implementation of a statewide trauma system without the involvement of state or local government is possible, it is unlikely to occur in today's climate of intense competition for health care dollars. The spectre of managed care which now dominates discussions concerning the immediate future of medical care further complicates the development of regionalized trauma care and decreases the likelihood of the development of such systems without governmental oversight. Economic pressures could serve as a stimulus for the development of both national and statewide trauma regionalization by offering more cost effective care of injured patients. Miller and Levy have recently documented that a nationwide trauma care system would lower annual medical payments by 3.2 billion dollars and prevent losses to the national economy of an additional 7.1 billion dollars due to premature death and loss of productivity.[21]

RECOMMENDATIONS

The development of a statewide system of regionalized trauma care is a complex and difficult task which requires the expertise and commitment of a diverse group of professionals and formal sponsorship by state government. In Kansas, this task would be best facilitated by the legislatively sanctioned formation of a Kansas Trauma Steering Committee made up of interested representatives from the Kansas Medical Society, the Kansas Chapter of the American College of Surgeons, emergency medical services, state hospital association, firefighter associations, state emergency nurse associations, and others. Members of this committee would be appointed by the governor. The charge of this committee would be to study the current status of trauma care in Kansas, to formulate a plan for the regionalization of trauma care, and to make recommendations for the implementation of the plan. Extensive data collection and analysis would be required to formulate a workable and efficient plan. While statewide trauma regionalization in Kansas would require considerable support from a broad spectrum of agencies, institutions and individuals, a predictable result would be the survival of approximately 500 additional trauma patients per year based on previously published data.[6-16] KMS

Dr. Smith is an Associate Professor of Surgery at the University of Kansas School of Medicine-Wichita. He is also Chairman of the American College of Surgeons, Kansas Chapter, Committee on Trauma and a member of the EMS Trauma Task Force which is developing a statewide trauma system.

Authors note: Since the completion of this article, the Kansas EMS Trauma Task Force has done much to formulate a trauma plan for Kansas. However, legislative approval and implementation have not yet been achieved.

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A complete list of references for this article is available by calling Linda Ruiz at 785.235.2383 or 800.332.0156.

Serous cystadenofibroma arising in an ectopic ovary

Camden Whitaker, MD; Ossama Tawfik, MD, PhD; and John C Weed, Jr, MD

TRUE OVARIAN ECTOPIA IS AN UNUSUAL gynecologic condition with less than 40 cases reported in the literature.[1-3] Tumors arising in the ectopic ovarian tissue are extremely rare and present a diagnostic dilemma when encountered. To date, the only tumors in this setting included two mature cystic teratomas, a serous cystadenoma, a mucinous cystadenoma and a Brenner tumor.[4-7] We report an additional serous cystadenofibroma arising in an ectopic ovary of a 55 year-old female.

CASE REPORT

This patient is a 55 year old, gravida 0, white female, who was diagnosed with ductal carcinoma in-situ in her left breast in 1991. She underwent lumpectomy and radiation therapy. The contralateral breast was diagnosed with breast carcinoma on follow-up mammography. The patient complained of non-specific pelvic tenderness for the past 18 months. She had no history of post menopausal bleeding, hormone substitution, or past pelvic surgeries. She was subsequently admitted to our institute for a metastatic work up.

On physical examination, the patient was noted to be in excellent health. Bimanual pelvic examination revealed a 12 cm tender, right adnexal mass. The uterus was enlarged, with an approximate 12 weeks gestational size and was deviated to the left. The remaining review of systems was unremarkable. Computed Tomogram of the abdomen and pelvis confirmed multiple pelvic masses. Moderate ascites was also noted.

At laparotomy, both ovaries were normal in size and location. A large, well circumscribed, cystic mass was attached to the right fallopian tube. This mass was separated by a distance of 3 cm from the right ovary. The uterus was enlarged and distorted by multiple leiomyomas. The patient underwent a total abdominal hysterectomy and bilateral salpingo-oophrectomy.

PATHOLOGIC EXAMINATION

On gross examination, the large paratubal mass was cystic and measured 15 x 9.2 x 6.1 cm (Figure 1). It contained approximately 400 cc of clear, serous fluid. The inner surface of the cyst wall revealed multiple exophytic

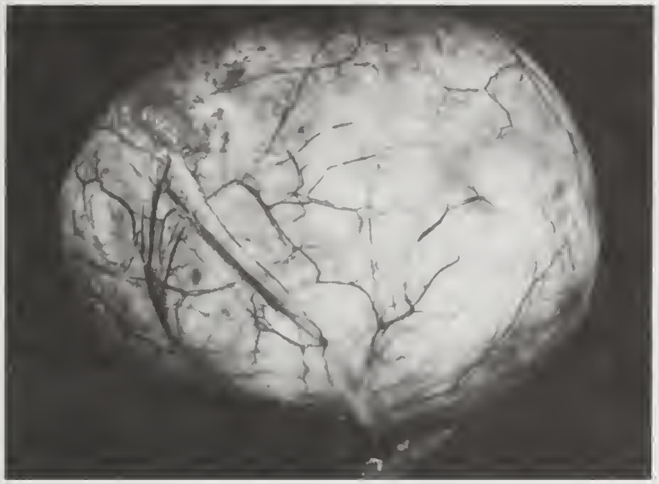


Figure 1: Gross photograph of a serous cystadenofibroma arising in an ectopic ovary. It is composed of a unilocular cyst with a smooth shiny surface that is stretched by the tension of the intracystic fluid.

papillary projections ranging from 0.1 to 0.5 cm in greatest diameter. Microscopically, it consisted of a separate ovary containing a serous cystadenofibroma (Figure 2). The cystic tumor roughly occupied 95 percent of the tissue and was surrounded by a thin but distinct rim of normal ovarian parenchyma. The right and left ovaries and tubes were of normal size and shape, without any abnormalities. The uterus was enlarged, measuring 15.5 x 12.0 x 7.5 cm and weighting 900 gm. It was grossly distorted by multiple leiomyomas. The largest of which was noted on the left side, measuring 6.0 cm in largest diameter. Other smaller leiomyomas varying between 1.5 to 3.0 cm in largest diameter, were dispersed throughout the myometrium of the anterior and posterior uterine walls.

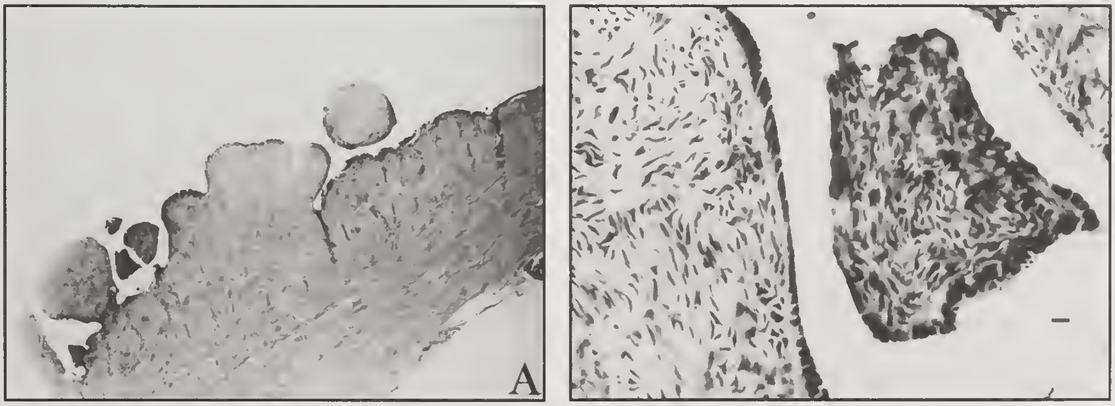
The post operative course was uneventful and the patient was released from the hospital on the seventh day following her surgery. She subsequently began systemic chemotherapy for recurrent carcinoma of the breast.

DISCUSSION

True ovarian ectopia is a rare gynecologic anomaly, occurring in 1:29,000 - 700,000 gynecologic admissions.[1-3] Since its first description less than 40 cases have been reported in the literature thus far. Wharton was the first to classify ectopic ovaries into supernumerary and accessory ovaries. In his classification, accessory ovaries contain ovarian tissue, but differ from each other in location, origin and development. Accessory ovaries are situated near the normally placed ovary and it is believed that they develop from it, possibly from tissue which was split from the embryonic ovary during its development.[1-2] Usually accessory ovaries are smaller and less developed than supernumerary ovaries. In contrast, supernumerary ovaries are entirely separate from the normally placed ovaries. They are usually located along what is thought to be the path of the migration of the primordial germ cells to the urogenital ridge. It is theorized some of these germ cells either detach and transplant along the path of migration or undergo migration arrest into the new location.[1-2]

Because of the relatively vast number of post-surgical cases of ectopic ovary (such as in ovarian remnant syndrome) in relation to the overall number of ectopic ovaries, a distinction needs to be made between displaced ovarian tissue and a truly ectopic ovary. In 1991, Lachman and Berman noted the distinction between separated ovarian tissue and a true third ovary.[3] They proposed the terms supernumerary and accessory ovary be eliminated and replaced by the term "ectopic ovary" instead. They have also proposed ovarian heterotopia to be further subclassified into post-surgical, post-inflammatory and true or embryologic.[3] Our patient did not have previous pelvic surgeries or history of pelvic inflammatory condition consistent with true embryologic heterotopia of the ovarian tissue identified.

Figure 2. Photomicrograph of a serous cystadenofibroma arising in an ectopic ovary. Several blunt papillary projections covered by a single layer of cuboidal epithelium are seen in (A). Please note the abundant fibrous stroma within the papillae and the small rim of normal ovarian stroma in some of the papillae in (B).



SEROUS CYSTADENOFIBROMA

Continued from page 25

The functional and pathologic potential of an ectopic ovary has been demonstrated with persistent menses occurring after bilateral oophrectomy and the development of tumors. The diagnosis of ectopic ovary can be very challenging. Ectopic ovarian tissue is usually asymptomatic and is usually found incidentally during surgery or at autopsy. Ectopic ovaries can be mistaken for lymph nodes, fibrous tissue, small fibromas, lobulated ovary and ovarian remnant syndrome. They can also be located retroperitoneally and can be small which would make them easy to miss during a routine gynecologic operation. Furthermore, the presence of an ectopic ovary may interfere with hormonal ablation in the treatment of breast cancer if the patient were to undergo bilateral oophrectomy.

Tumors arising in ectopic ovaries can similarly present a diagnostic dilemma with a differential diagnosis including hydrosalpinx, ectopic pregnancy, paraovarian cysts, leiomyomas, and other pelvic and metastatic tumors. To date only five benign ovarian tumors arising in ectopic ovaries were reported in the literature.[4-7] These included two cases of benign cystic teratomas, single cases of serous cystadenoma, mucinous cystadenoma and a Brenner tumor. Our case represents the sixth case of such tumors in this setting.

In summary, ectopic ovaries are unusual gynecologic conditions. Whatever their origin, these ovaries have the functional capacity of a normal ovary, and can develop the same range of pathologic conditions including tumors. KMS

Camden Whitaker is a fourth-year medical student at the University of Kansas Medical Center and is applying for residency. Dr. Tawfik is a pathologist at the University of Kansas Medical Center. Dr. Weed is a obstetrics and gynecology physician at the University of Kansas Medical Center.

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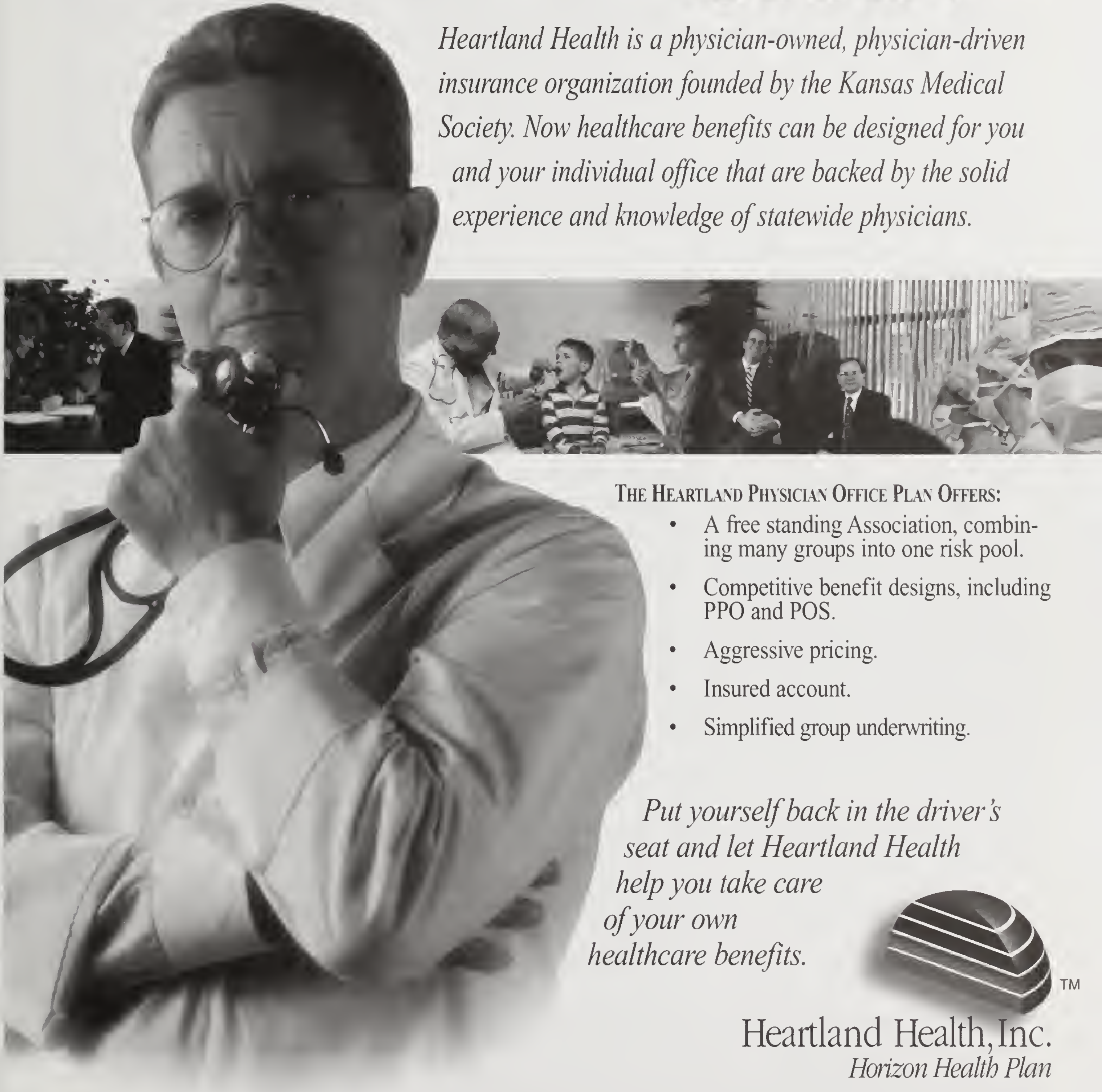

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Dealing with grown children of elderly patients

A PATIENT'S daughter phones from out of town, concerned about her father. The son of a nursing home resident confronts her physician in the corridor, wishing to discuss his mother's care. Scenarios such as these are routine for clinicians caring for elderly individuals. What is the physician's professional, legal, and ethical responsibility? Are family members subject to the same rules of confidentiality as other third parties? In this paper, the concept of confidentiality will be reviewed, focusing on legal, ethical, and clinical perspectives; some practical guidelines will be provided.

DEFINITIONS

The concept of confidentiality is applied when information is consciously or voluntarily passed from one rational competent person to another with the understanding that the information shall not be further disclosed. The doctor-patient relationship requires sincere, complete disclosure of information by patients to promote accurate diagnosis and treatment. Confidentiality protects individual preferences and rights. It involves two or more persons, one or more of whom relinquishes their privacy.

Decision-making capacity is necessary for making independent decisions. This is not an all-or-none concept but task specific; the threshold of judgment depends on the circumstances. Capacity requires forming and communicating desires and preferences; understanding relevant information; appreciating choices in a particular context, according to personal values; understanding the consequences of a choice; and making a decision using logical comparison of the benefits and risks of options. Competence is determined in a court of law, while decisional capacity is a clinical determination. If capacity is lacking, the restrictions of confidentiality with regard to family members become less stringent.

THE LEGAL PERSPECTIVE

The doctrine of confidentiality is recognized by the courts. Physicians are obligated to refrain from voluntary disclosure of information obtained in professional capacity. However, this obligation is not absolute, but is subject to infringement by idiosyncratic circumstances. Many clinical situations are not covered by a specific state statute; common law is a judgment based on published cases, not a written statute or code.

Certain situations legally require reporting by a physician, who risks liability if he/she does not comply. Examples include child and elder abuse, certain infectious diseases (HIV), and gun shot wounds. There are several legal exceptions to confidentiality stipulations. One obvious exception is when a patient consents to disclosure. If disclosure is in the patient's best interest, an exception is allowable even without consent. Lastly, an exception is made if disclosure is in the best interest of the public. The physician must judge whether future harm to society justifies immediate, definitive harm to the patient if disclosure occurs, and be prepared to justify his/her decisions. Documentation should include relevant facts, exam findings, test results, diagnostic conclusions, treatments and future plans. While physicians must have appropriate restraint and respect for limitations of confidentiality, clinical practice is not without some legal risk. A breach of confidence may result in a lawsuit, but litigation is somewhat rare as patients are reluctant to expose sensitive information further, and damages are difficult to prove.

THE ETHICAL PERSPECTIVE

Confidentiality serves two purposes: respect for individual privacy and improving health care by promoting trusting doctor-patient relationships. There is often tension between professional responsibility to keep information confidential and a moral duty to reveal information to third parties, including family members.

The current health-care climate emphasizes respect for patient autonomy (self-determination). In seeking care, individuals give up some autonomy with the goal of attaining improved health. Fidelity is an obligation to keep an explicit promise to promote the patient's welfare, but is variable depending on the specific promise and expectations of involved parties.

The basic ethical question has several levels. Is it the physician's duty to judge what is or is not in the best interest of society or its members? A doctor's primary obligation is to care for individual patients, not the public. When does the "good" of others take precedence over the "good" of the patient? What rights do family members have to private patient information? These are difficult questions to answer. It is hard to compare the amount of harm inflicted on the patient to the degree of potential harm to others avoided by violating confidentiality. If the magnitude or probability of harm to others is great, the moral obligation to violate confidentiality increases.

THE CLINICAL PERSPECTIVE

Clinical practice requires flexible translation of moral obligations into practical guidelines. Fixed rules will not cover clinical circumstances and are not appropriate for health care. Elderly patients fare better with family support, so confidentiality should not be used as an excuse to avoid communicating with involved relatives. Alienating family members due to strict adherence to a confidentiality principle is not usually in the best interest of patients. At the same time, the doctor should remain cognizant of individual family dynamics and the motives, expectations, and authenticity of relatives seeking information.

Elderly patients often suffer cognitive deficits, complicated medical problems, polypharmacy, and numerous functional limitations. Family members frequently serve as care givers, assisting with daily self-care tasks, transportation, and other necessities. For individuals with cognitive deficits, it is almost always in the patient's best interest to share information. However, an overt conspiracy to bypass the patient violates his/her dignity. If the patient retains some decision-making capacity, he/she should be included in the decision-making process.

In viewing confidentiality, the clinician can choose a rigid rights-based approach or a care-based approach. Rigid application of principles is only possible in theory; frequently the rights of two or more parties are in direct conflict. A care-based approach, on the other hand, promotes trust and mutual regard.

PRACTICAL GUIDELINES

The clinician should attempt to balance respecting patient confidentiality and communicating effectively with family. Physicians should educate themselves regarding confidentiality and clearly and completely document discussions, decisions, and actions, including phone calls. They should develop individual limits to confidentiality and any disclosure. Conflict can often be avoided by communicating with the patient first, reviewing reasons for and against disclosure and potential consequences.

The physician's attitude toward family inquiries can foster the obligation some relatives feel to "do something." Family meetings can often help to clarify motives and develop compromises and solutions. In other cases, involvement of an attorney, judge, adult protective services, a psychiatrist or other specialist may provide an objective "third opinion" and help to resolve the conflict.

CONCLUSION

The concept of confidentiality, especially when dealing with family members, is primarily a moral or ethical issue rather than a legal one, although legal mandates for disclosure should be reviewed. In dealing with elderly patients and their family members, several variables are important; the best interest of the patient, his or her decision-making capacity, the presence of an advance directive, the motives of the family, the sensitivity of the situation, and the patient's preferences all contribute to the decision of whether to disclose information. Relatives of elderly individuals frequently serve important care giving roles that support the health and quality of life of the patient; thus alienating family members is not, generally, in the patient's best interest. Open communication between clinician, patient, and family, and accurate documentation are key to avoiding potential discord.

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Review of the *Nelson Textbook of Pediatrics*

TWO HUNDRED TWELVE PHYSICIANS AND scientists from the United States, Israel, Canada and France provide 670 chapters in over 2200 pages, including index. Contributors derive from a host of institutions. A few are not pediatricians. The volume does fulfill claims of major revision and reorganization. Although it is presently the most thorough, comprehensive and current textbook of pediatrics, certain problems are found.

The text strays from the traditional textbook model with discussions of ethics. In this reviewer's opinion, the chapter on ethics is more than welcome. It addresses beneficence, life support including the "Baby Doe" dilemma, withholding versus withdrawing treatment, and active versus passive euthanasia. The risks of screening for asymptomatic illness are considered as well as its benefits, in four paragraphs which should be required reading for each organization sponsoring such ubiquitous activity. We hope that every legislator will consider two paragraphs under the header, "Access to Health Care; Rationing." It includes recognition of the present American dilemma, that no other major industrial country rations basic health care on the basis of ability to pay, with serious consequences expressed as suffering, disability and death. Rationing of health care is defined as limiting access to wanted and needed services of known benefit.

Fluid management is explained lucidly, but differential diagnosis of acid-base disorders could be enhanced. Workups for electrolyte disturbances could be better explained with decision-flow diagrams. The paragraph on the hydrogen ion is generally good, emphasizing that blood pH can be measured accurately in small specimens. Recognition that when p02 is not needed clinically, many acid base disorders can be assessed by capillary or venous pH and pC02, without arterial puncture, seems to have been lost. However, arteriovenous differences are addressed. (With normal cardiac output, central venous pH generally is only 0.03 limits lower than arterial pH.)

Some common, general pediatric issues might have been discussed more completely; e.g., pulmonary function tests. Little is provided about interpretation of flow loop diagrams.

Among improvements, The Nervous System has blossomed to 97 well-written pages, with meningitis and meningoencephalitis described under infectious diseases. Dermatology includes useful color plates. Orthopedics, ophthalmology, gastroenterology and advances in immunology have expanded.

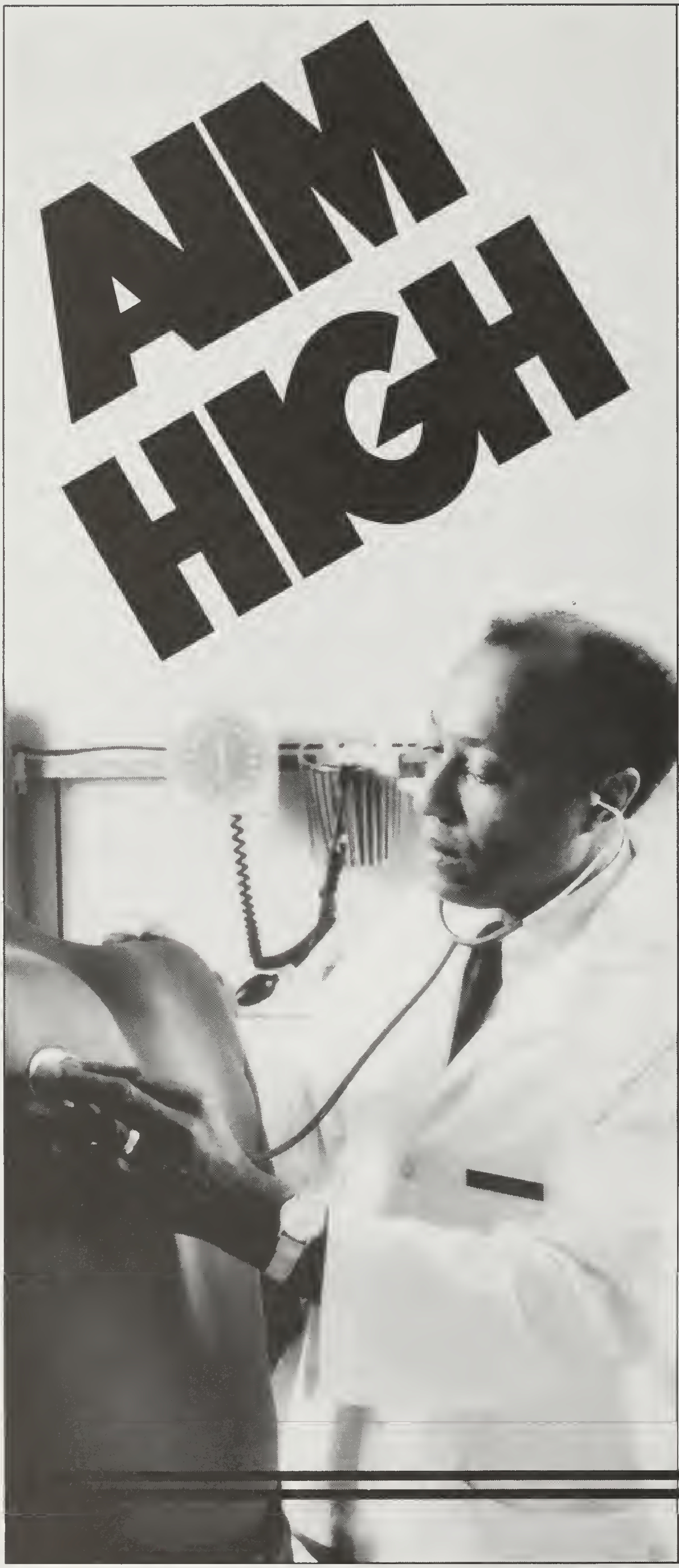
Explanation of hemolytic disease of the newborn leaves this reviewer uncomfortable with the designation (in Figure 89-2) of Kell (which is presently designated "K antigen") as a minor blood group, because anti-K antibodies can cause severe erythroblastosis. K antigen in fact is second only to D in the Rh system in immunogenicity. A sentence on page 500 which lumps together K and Duffy with S and P as rare causes of hemolytic disease fails to provide a proper sense of proportionate risk. In antenatal diagnosis of hemolytic disease of the newborn due to Rh incompatibility, the text advises that maternal titer of IgG antibodies to D should be assayed; perhaps it might have explained that this is called the indirect antiglobulin test or indirect Coombs' test, in which serum to be evaluated is tested against known (reagent) D positive red cells. Limitations of antiglobulin testing exist but are not shared with the reader, although some are clinically relevant. In diagnosis of hemolytic disease due to A and B incompatibility, a weakly to moderately positive direct Coombs' test (antiglobulin test) is described, but in fact the direct antiglobulin reaction may also be negative in ABO incompatibility, related to diminished antigen-antibody sites on fetal erythrocytes. The book fails to provide definition of the direct Coombs' reaction; perhaps it should explain that one performs a direct antiglobulin test with polyspecific anti-human globulin (reagent antiglobulin) on patient red blood cells.

Exciting enhancements to medical practice are addressed in Chapter 64, "the Molecular Basis of Genetic Disorders," and in Chapter 65, "Molecular Diagnosis" in which the author discusses applicability for prenatal diagnosis, carrier status and more. Important words appearing in italics help, and complex processes are explained. The author was able to take the reader from the biochemical fundamentals of nucleic acids to current procedures and practices in simple terms. It was helpful to see the individual genetic diseases listed with known chromosomal mutations.

The strongest parts of the text in the previous edition remain thorough and current. Endocrinology and infectious disease sections serve as superb resources. The chapters relating to infectious diseases were well organized, first by clinical syndromes and second by specific types of infectious agents. Each chapter is divided into sections which allow for quick reference, relating to epidemiology, pathology, clinical manifestations, diagnosis and treatment. These chapters are preceded by one on use of the microbiology laboratory, which explains proper collection of specimens, expectations and limitations of the laboratory. There is an excellent and thorough chapter on antiparasitic drugs for children. A similar chapter addressing treatment of other infectious diseases in children (i.e., antimicrobial and antiviral agents), including discussion of new agents and possible side effects, would be helpful. Although many of us may concur with a recommendation that latex bacterial antigen detection systems are best reserved for meningitis patients who were receiving antibiotics when their cultures were obtained (p711), a 1995 paper in the microbiology literature is relevant.

References are moderately current. They are very heavily weighted to pediatric sources. In the best of all possible worlds, citations from other parts of the medical spectrum would be welcome.

In summary, Nelson Textbook of Pediatrics remains a classic. We think it is amazing that so comprehensive a volume can be assembled at all. RMS



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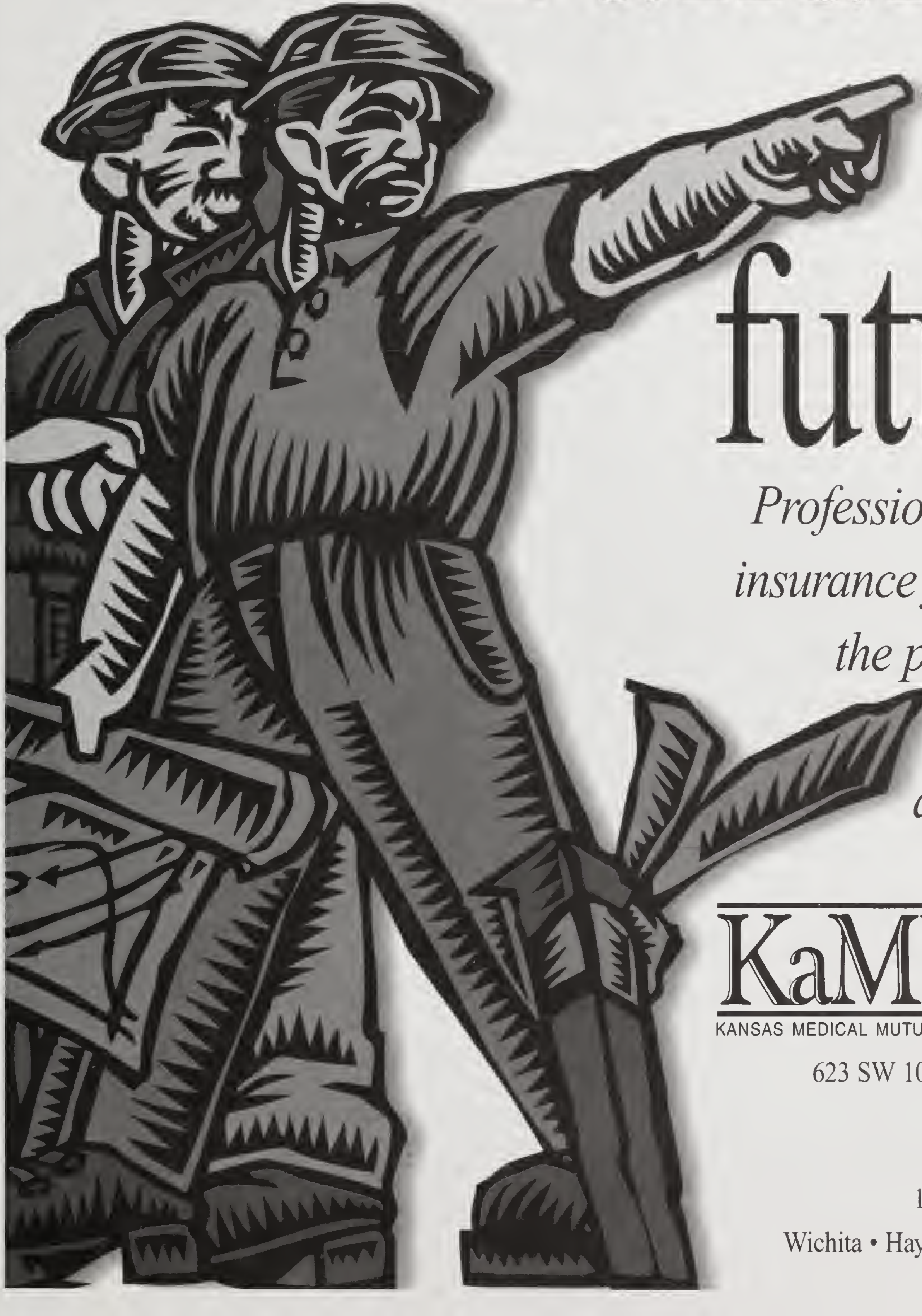

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Curriculum

Arthur Hertzler, MD

The Horse and Buggy Doctor *was written by Arthur Hertzler, MD, a Halstead physician. It recounts the practice of medicine as it was during Hertzler's career. The piece is reprinted with permission from the Hertzler Foundation.*

WE COMMITTED TO memory Schaefer's Histology and Delafield and Prudden's Pathology. It was just like learning the irregular Greek verbs, plain hard memory work. We were quizzed so often that we really remembered the text, and by comparing the cuts we got a fair knowledge of the subject. This method of teaching has its advantages. One really learned a little about the subject, which served as a foundation for further acquisition of facts. It seems to me that teachers now fail to recognize that in order to reason one must have facts. Facts are not congenital; one must gather them. Furthermore, in the dawn of time memory was started first; reason came after. We learn to practice medicine in the same order.

Chemistry was well taught by the redoubtable John Harper Long, "Johnnie Hydrogen" to us. Most of us were handicapped by a lack of a preliminary course in chemistry, but that made no difference to the aforesaid professor. His chief delight was in "flunking" as many as possible and his capacity along this line was agonizing. This course corresponded to the dreaded " P.Chem." of the student of today. The laboratory work in this course was adequate, considering the times.

Anatomy was taught by young surgeons. We had to commit most of Gray's Anatomy to memory, so that we could recite it like a devout man reciting his prayers. The nearer one could come to repeating the book verbatim the better student was he. Having done much of this memory work during my preceptor year, I found it easy sledding. Then, as now, in the classroom but little attention was paid to the differentiation between the important and unimportant. We learned what was in the book. For instance, the trifacial nerve has something like forty-five branches in the classroom, while in the dissecting room it had only three; so far as I am concerned it never has had a greater number, though I once taught anatomy. **KMS**

Thoughts on surgical practice in a rural setting

Fernando Ugarte, MD

SINCE MOVING TO MARYSVILLE FOUR years ago I have learned a new way of living while practicing in a rural setting. There is no background on rural surgery, particularly I am not aware of any journals pertaining to rural surgical care nor do I know of any associations that gather rural physicians or rural surgeons. The first paper that I found on rural practice was by Dr. Richard Field, the ex-president of the Southeastern Surgical Congress who presented a beautifully written paper about his surgical practice in a rural area.[1] I discovered that we share many thoughts and that my way of practicing was satisfactory and fulfilling just like Dr. Field's.

Two years ago I presented a paper at a meeting of the North American Trauma Association in Cooper Mountain, Colorado.[2] I expressed my thoughts on surgical practice in such a setting. Recently, *Kansas Medicine* has shown interest in diffusing knowledge about rural practice.[3] This has stimulated my thoughts and I would like to share them with the readers to show them our way of medical practice.

Our hospital here in Marysville has 50 beds, but in general, we have 30 patients at any given time and that keeps us pretty busy. The hospital depends solely on revenues from our fees. Therefore, we have to be very careful how we handle our patients. We like to have the highest rate of collection and be solvent to remain open for years to come.

It would be impossible for all of these people with medical problems to commute to major, big city hospitals. The majority of our surgical patients are taken care of in our hospital. We provide the care that they need. It would be impractical for people having an acute appendix or gallbladder stones to travel far away when there are hospitals just like ours that can do an excellent job with their care.

SOCIAL ASPECTS OF RURAL PRACTICE

There are some problems to practicing in an area like this. The biggest shopping center in our town is WalMart. The population of Marysville is around 4,000 and we serve a county of probably 20,000 people. The common restaurants that are open to us are Hardees and Sonic. We recently got a Subway and we have three or four other restaurants that are acceptable for family dining, but they are not open all of the time. It might be an inconvenience to some people.

We don't have any designer stores or big shopping malls. When we want to buy for Christmas, we might have to travel to Kansas City or perhaps take a trip out of the state. We often do and that can be a short vacation and almost fun to go shopping for an event.

There are no divided highways leaving Marysville. The nearest divided interstate is 60 miles away in Manhattan. The roads leaving Marysville are two-lane roads that are well kept. However, accidents occur and we have to be careful particularly at night when deer or other animals cross the roads. I have seen serious injuries when people hit deer. This is a very serious drawback and it has made me change the way I travel. I always try to travel during daylight hours. In the winter this gets worse because of less daylight hours. I try not to drive at night unless it is a true emergency.

The school system is quite acceptable and I believe the education is comparable to any big town. In particular, the kids are not involved in gangs and violent activities like in the big towns. Nevertheless, drugs and alcohol are still a problem and I believe that they are everywhere in this country. Spouses can be disenchanted. Their feelings may be that there are not many things for them to do, but we discovered that there are multiple activities in our town and they can be involved and busy in all the community endeavors.

The Union Pacific train crosses our town at least a hundred times a day and occasionally I can get detained for several minutes at a time. I have learned that this is not a problem since I usually listen to music and enjoy the music longer while going to the hospital.

On the other hand, there are positive aspects to living in a small town. I have also discovered that the people are very warm. They are hard-working and quite serviceable. Our patients work in all of the businesses in town. They work in the grocery stores, the gasoline stations, the restaurants, the print shop, the newspaper, and the post office, to name a few. We are their friends and not only do they support our practice, but we support their businesses. The friendships that develop are quite strong and have provided a very positive attitude to my life and my practice. Business relationships should not influence how

THOUGHTS ON SURGICAL PRACTICE

Continued from page 37

one practices medicine, but they certainly are important to keep us happy while we practice in rural areas like Marysville. Knowing that my patients are also my friends is a great feeling. I think it occurs more often than in metropolitan areas.

MEDICAL ASPECTS OF RURAL PRACTICE

I am the only full-time surgeon in the hospital and I am also a consultant to another hospital 37 miles away in Nebraska. The surgeon from Nebraska covers my practice when I am away and I do likewise and although I have to drive the distance to see patients, it gives a new dimension to my practice. Our Operating Room has two functioning rooms. One of which is used constantly and the other one is used when necessary. We have five full-time registered nurses. Our supervisor and the four other nurses make rotations in all of our cases and they do an excellent job.

Our patients travel distances, but they are very faithful and very punctual and they come with many different surgical problems to our hospital. I have done a great variety of abdominal procedures. I do all of the hernias, appendices, and gallbladders. I have done gastrectomies, and colon resections are very common. These people are usually of advanced age and colon cancer is very prevalent. I have done some other procedures such as pancreatectomies and insertion of peritoneo-venous shunts for intractable ascites. I have also extended my practice to care for common childhood afflictions such as hernias, undescended testes, appendicitis, and tonsillectomies. I do a great deal of head and neck tumors such as basal cell and squamous cell carcinomas and a number of thyroidectomies. I also do sclerotherapy for venous disease of the lower extremities and since I moved to town we insert all of the venous accesses, triple lumen catheters, Groshong catheters, and subcutaneous ports for chemotherapy. The patients that receive chemotherapy are treated in our hospital after they are seen by a consultant oncologist that comes from Lincoln, Nebraska once a month.

The preoperative work-up for patients is very simple for all of the major abdominal procedures. The patients are evaluated with a chemistry profile, a CBC, a urinanalysis, a chest X-ray and a cardiogram.

Patients do not receive any preoperative medications, but are seen by our anesthetist for a preoperative evaluation. After surgery, in most cases, the patients are awake and ready to be transferred to our recovery room. An occasional patient that is sleepy and has not been able to be extubated immediately will be kept in the OR for a few minutes until he fully recovers. At no time do we keep patients on endotracheal tubes for any prolonged time after any major surgical procedures and I will emphasize that our patients occasionally have gone to our ICU, but they are usually extubated and are merely there to be monitored and watched carefully.

Our operating room functions every day. There are surgeons who come from out-of-town and they do other procedures such as orthopedics, cataracts, gynecology, otolaryngology, and podiatry. I try to communicate with them openly and we have a very congenial working relationship.

The continuing medical education that I do has to be done out of town. I have had to plan these meetings with some care since I depend on my fellow surgeon from Nebraska to cover my practice and we can't be away at the same time.

WHAT WE HAVE LEARNED

I guess it would be fair to assume those practicing in rural areas would feel alone, that there is no support from other surgeons and that perhaps we cannot discuss cases with fellow physicians. This feeling can at times be frightening and even intimidating.

I have learned to depend a great deal on my clinical judgement; to be resourceful, inventive, grateful, and most of all, patient.

I have learned patience since I cannot demand perfection. I have learned to be a good listener. When our nurses advise us about something, I listen. I have discovered that their way of handling patients is perhaps more simple, but quite possible and acceptable. The relationship between myself and our anesthetist is excellent. I would never do anything to contradict him. On the contrary, I make suggestions and I also listen to him very carefully because I have discovered that his suggestions are reasonable and that he is not my adversary which is often the case in big medical centers.

My office is enjoyable and it is not only open to my patients, but to many of my friends who come sometimes to talk to me about their different problems or their accomplishments that have nothing to do with medicine. I certainly encourage all visits and I enjoy them all of the time. I also get telephone calls from my patients to my home.

To add support to my practice I can call other surgeons from Topeka or from Lincoln and discuss cases with them and on occasions I have had to use their services to transfer occasional complicated cases that I have not been able to handle alone.

We have excellent communication systems and we are serviced by helicopters from the hospitals in Topeka (100 miles away), Lincoln (75 miles away), and occasionally from Wichita (150 miles away) to transfer patients. I have referred a few patients to be operated elsewhere. One patient needed a hepatic resection, another needed a total nose reconstruction for a large tumor. One patient had a very low ejection fraction (25 percent) and was referred for a laparoscopic cholecystectomy and another patient needing a laparoscopic Nissen fundoplication requested the procedure to be done in Lincoln.

I continue reading about surgery, I have to use my textbooks, my journals, and I also use the KU Medical Center Library when I have to do some research and reading. I have to travel 140 miles to the library and I use it as an excuse to take a mini vacation and I go there for the whole weekend.

I have to conclude by saying that a surgical practice in an area like mine is thoroughly enjoyable and not only pleasant and possible, but also quite fulfilling. For a young resident who finishes his training in surgery, and is willing to focus on only general surgery, this might be a frightening place. If he needs all the support of various consultants and depends on sophisticated monitoring systems he won't enjoy it. All the support that is available in big medical centers is important, but it is not impossible to practice without it. My work is satisfying and I have had excellent recoveries from my patients.

I hope that this paper will stimulate some thought in people who want to practice in rural areas. KMS

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Oral rehydration therapy for pediatric gastroenteritis

“In the United States, an average of 220,000 children younger than five years are hospitalized each year with gastroenteritis, accounting for more than 900,000 hospital days. Approximately nine percent of all hospitalizations of children younger than five years are because of diarrhea. In addition, approximately 300 children younger than five years die each year of diarrhea and dehydration. Hospitalization and outpatient care for pediatric diarrhea result in direct costs of more than $2 billion per year.” [1]

The American Academy of Pediatrics (AAP) released a practice parameter in March 1996 regarding the management of acute diarrhea in children age one month to five years. The practice parameter presents current knowledge with evidence-based recommendations for the optimal treatment of children with diarrhea. The Agency for Health Care Policy and Research (AHCPR) Center for Outcomes and Effectiveness Research reviewed the literature concerning the incidence, health care resource utilization, and current patterns of treatment for acute gastroenteritis in children. They found that physician and parent practices continue to differ from the practice parameter recommended by the AAP. The reasons for this need to be studied further. However, some of the possible explanations suggested in the literature are child provider financial constraints, practitioner training, and reimbursement considerations.[2]

The Kansas Foundation for Medical Care, Inc., (KFMC) has initiated a quality improvement project in collaboration with other health care providers across Kansas. The primary goals of the project are to promote the appropriate use of Oral Rehydration Therapy (ORT) through education of health professionals and parents, and to increase the awareness that Medicaid covers glucose electrolyte solutions when prescribed. KFMC is conducting this initiative as part of its contract with the Kansas Department of Social and Rehabilitation Services for quality improvement in the Medicaid program. In the Kansas Medicaid population during Fiscal Year 1996, approximately 12 percent of all acute admissions and six percent of all Emergency Department visits for children age one month to five years were because of diarrhea.

The following guidelines for managing diarrhea in young children are outlined in the practice parameter published by the AAP.

Rehydration

ORT is the preferred treatment of fluid and electrolyte losses caused by diarrhea in children with mild to moderate dehydration.[1]

Glucose electrolyte solutions (GES) such as Pedialyte, Infalyte, and Kao Lectrolyte should be used in ORT rather than commonly used clear liquids, e.g., apple juice, carbonated or sport beverages. The concentrations of simple sugars contained in these solutions result in high osmotic load and will interfere with the absorption of sodium and water. In addition, the electrolyte content is not adequate to replace ongoing stool losses.

Feeding of Appropriate Foods

Children who have diarrhea and are not dehydrated should continue to be fed age-appropriate diets including breast or bottle feeding. Children who require rehydration should be fed age-appropriate diets as soon as they have been rehydrated. Clinical experience based on controlled clinical trials suggests complex carbohydrates (rice, wheat, potatoes, bread, and cereals), lean meats, yogurt, fruits, and vegetables are tolerated best.

Antidiarrheal Compounds

As a general rule, pharmacologic agents should not be used to treat acute diarrhea. Many of the antidiarrheal compounds have potentially serious adverse effects in infants and young children.

If you have any questions regarding this information, or would like a list of the references, please contact Laura Sanchez, RN, Medicaid Project Manager at 785.273.2552.

KMS President's inaugural address

Joseph Philipp, MD

Dr. Philipp's address was presented on May 4 at the 1997 House of Delegates.

MR. SPEAKER, DELEGATES, AND guests, last night I mentioned that I was impressed by the growth of the Kansas Medical Society in the last ten years and that perhaps it was time to pause and define who we are, remember the past, and decide where we are going. I would like to begin by reading a quotation, "Gentlemen, our profession is in disarray. The respect for the term physician has been diminished. The desire to be a physician with inadequate education and training is apparent. There are those among us who choose to be physicians for only personal or financial gain. Now is time to strengthen our profession. Now is the time to act."

Some of you may think those words sound familiar. In fact, if the salutation were changed to "Ladies and Gentlemen," I might even tend to agree. Those words are not from today. Those words describe the state of medicine in 1847. Exactly 150 years ago the American Medical Association was founded to address those words. There was much discussion without universal agreement, but they chose to act. Minimal standards for education were established. Physicians were responsible to other physicians. Uniform standards of conduct were also established and enforced. Listen to one of these standards: "Any patient requesting your services would receive care irregardless of his ability to pay and irregardless of his disease." Medicine has changed in the last 150 years, but the simple and obvious principle on which the AMA was founded has not changed. The principle is that if you want respect and trust, you must earn it. It was a humble beginning, but it has given us a proud heritage. For the first 50 years, thanks to the AMA standards, physicians gained in status and respect. History tells us that at the turn of the century, the 20th not the 21st, the status of physicians began to decline. Some of that was the failure to deal with the diversity, the specialization, the research, and the scientific advancements that occurred with the industrial revolution. I mention our past, not because I think we should live in it, but because I believe we should remember it and learn from it.

Today, from our proud heritage we have remained a unique profession. As a group, we are the best educated, the most dedicated, well compensated, and the most compassionate of any profession. It's true, a group of college professors may be better educated, a group of CEOs may be better compensated, or a group of ministers may be more compassionate. But no profession can combine all these characteristics as we do. We are not a trade or a business, but we are a proud profession bonded together by our education, personal sacrifices, compassion, and ethics.

If I were to choose one common word that bonds us all to medicine, it would be trust. Trust is the basic value that binds us together and bonds us to our patients. There are four components of trust. They are competency, fidelity, integrity, and compassion. First, we must maintain trust with competency. Training, continuing education, the constant exchange of ideas and information is a challenge for all of us, but it is basic for our profession if we expect the trust of our patients. Competency is the science of medicine and cannot be compromised. Next comes fidelity. We are all bonded to medicine and our profession by oath and duty. Medicine is not a nine to five business or trade, but it is a full-time, life long commitment to each other and to our patients. Integrity is the next component of trust. Our ethical principles must be constant and consistent and can never be compromised. Other professions may be

KMS PRESIDENT'S INAUGURAL ADDRESS

Continued from page 41

bonded by laws, but we are bonded by uncompromising adherence to our ethical principles. If we truly want to be patient advocates, then we can never deviate from that concept. The world of medicine is changing. But the more the world of medicine changes, the more our principles must remain the same. The last component of trust is compassion.

Compassion is the component of trust that separates our profession from the discipline of law and the reality of business. Compassion–when science and technology just aren't enough and we must think with our hearts as well as our heads to maintain the trust of our patients. Competency, fidelity, integrity and compassion. That's what our profession is about today. Trust me, I'm a doctor. A simple phrase, but a significant message.

Today we are a diverse group. Solo to group practice, family to subspecialty practice, city to rural practice, academic to administrative practice. We differ in age, in gender, in personal goals, and in lifestyles, but we are all physicians. We are all brothers and sisters in the fraternity of medicine.

What about the future and where do we go from here? Yogi Berra, the great American philosopher, once said, "If you don't know where you're going, you'll probably end up some place else." We must always remember where it is that we wish to go. Health care is changing. Physicians are no longer the captains of the ship. That's politically incorrect. Today health care has become a team sport. Today people speak of the team approach with massive numbers of health care providers. Doctors and nurses used to provide health care. Today we have allergist to alternative therapists, cardiologists to chiropractors, neurosurgeons to nurse practitioners, pediatricians to pedorthists, radiologists to recreation therapists. The list goes on with every group saying they can do it better, they can do it cheaper. Sometimes health care doesn't seem like a team approach at all, but rather a massive, disorganized, group approach. Teams may not need a captain of the ship but they do need leaders.

Allow me to digress for just a moment. Let's talk about KU basketball and K-State football. Now there are two great teams. Both have good members, but what makes them great? There are, of course, many factors, but I believe the key to their success is the leadership of Coach Roy Williams and Coach Bill Snyder. I have never met Coach Williams, but I have met Coach Snyder. He is a quiet, intelligent, articulate man, who is totally dedicated to his profession and commands the respect of everyone around him. If we choose to be leaders of the health care team, we can demand no less of ourselves.

At this time we have an important decision to make. Will we choose to be leaders of the health care team or do we choose to be members of the team? For the sake of our patients we must choose to be leaders. Our profession must accept that option. How do we do that? Are we going to choose to be arrogant dictators? History tells us that arrogant dictators may have their moment of glory but their ultimate fate is always one of disaster. History also tells us that compassionate leaders who refuse to compromise their principles may lose battles but eventually endure and accomplish their goals. There are many well trained and competent health care professionals that must be recognized and utilized on the health care team. The problem is how do we do that? What are the details? What are the solutions? As physicians how do we become the compassionate leaders of the health care team? The solutions are not simple. There are those outside our profession that desire to use us against each other for solutions, and they are wrong. If family doctors think they have the solutions because they deliver the broadest primary care, then they are wrong. If specialists think they have the solutions because they care for the most difficult and complex patients, then they are wrong. If academic doctors think they have the solutions because they are on the cutting edge establishing standards of care, then they are wrong. If administrative doctors think they have the solutions because they manage large numbers of people and money, then they are wrong. If I think I have the solutions because you have asked me to be your spokesman, then I am wrong. The solution is our diversity. Diversity is not our weakness, it is our strength. As we find solutions for our current problems, it will be because we do it together. Sometimes we forget and think our diversity is a problem and it keeps us apart. That is wrong. We need our diversity. We need each other. We will find solutions when we unify our profession in the art and science of medicine for the benefit of our patients.

Unify our profession in the art and science of medicine for the benefit of our patients. If that sounds familiar, it should because that's the objective of the Kansas Medical Society. Our profession is based on trust with our patients and on the unchanging principle that we must be patient advocates. Are patients the most important thing? Wall Street will tell you "Oh yes, patients are the most important thing because no patients means no profits." To our profession patients are not the most important thing, they are the only thing. That's what it means to be a patient advocate.

That's where we are going and that's what we must remember, if we wish to earn the trust of our patients. The solutions are not simple, but with communication, cooperation, and collaboration and remembering that we can never compromise our principles, our profession will not only endure, but it will lead the health care team into the 21st century.

I know I have not given specific answers to specific problems–and we have some significant ones–including legislative battles attacking our tort reform, government mandates, and managed care. We must all understand the mechanism of how we will obtain the answers. We must remember the past and our proud heritage, we must understand who we are and our potential and limitations as individuals and as a profession, and we must have a clear understanding of where we are going, and never compromise our principles of trust and patient advocacy. We must lead the complex health care team through the economic realities and changing demands of health care.

As we leave today, I would ask that we all stand a little taller. Feel good about our past and take pride in our profession as we look forward to the challenges that we face together. Thank you for listening and have a safe trip home. KMS

KMSA President's inaugural address

Glenda Schmidt

Mrs. Schmidt's address was presented on May 3 at the President's Installation at the 1997 Annual Meeting.

THERE ARE FEW DECISIONS A PERSON makes in life that affect one more than the choice of a mate. That seems especially true when the mate one chooses has chosen medicine as a career. For there is no aspect of our lives that is not affected by the choice of your profession. Now, to be sure, many of those are positive—the income level, the very comfortable lifestyle we lead, advantages of travel and education, prestige and respect in our communities. But there are certainly negatives as well—time we spend alone because you are working, being a single parent much of the time, handling household and family crises alone because you aren't available. And I'm sure all of us could tell a few tales of when the telephone rang or beeper went off at a most inopportune moment. Certainly, medical marriages are a unique and stressful institution. At times, we feel as though we not only married you, but we married medicine as well.

Many of us have chosen to be a part of your professional life by choosing to work in your office. Since my own decision to accept Ramon's invitation to come back to work as his office nurse three years ago, I have been more aware of the large number of physician spouses who are or have worked with their mates. For me, part of the rational was "if you can't beat them, join them," for I knew it was the only way we would have more time together before retirement. And maybe I had finally figured out a way to bill him for some of my time!

Our relationships are so unique that 75 years ago physician spouses chose to found an organization wedded to your professional organization, the American Medical Association. It is 75 years ago this year that the American Medical Association Auxiliary was established. And it was 72 years ago that physician spouses in Kansas founded the Kansas Medical Association Auxiliary, now the Kansas Medical Association Alliance. We have been your partners, helping you in achieving your professional goals and the goals of your professional organization all of these years. We have supported each other in the unique, rewarding, and sometimes difficult role of being a physician's spouse.

The Alliance will continue to function in that way during the coming year. We will continue to advocate in the legislative arena, at times acting as your hands and your feet, and will lend our voices to yours in supporting legislation that will meet the health care needs for the people of our state and nation. We will continue to raise funds to support medical education through AMA-ERF, and we will continue to support each other and you in the rapid changes in medical practice taking place in this era of managed care. There is a long line of my predecessors in this office that have done a superb job in each of those areas; I have some very big shoes to fill.

But as you all know, my own profession is that of nursing and I am actively involved in my husband's practice as his nurse. So, you might guess that the area that has always been of greatest interest to me within the Alliance is that of health promotion. So tonight, I would like to use this opportunity to share with you two new health projects that we will be undertaking this year.

The first is that of the Healthy Kids Van. This is a project of the American Cancer Society to educate the children of our state in three areas that can impact their future health: nutrition, anti-smoking, and skin cancer prevention. We will be enhancing initiatives already undertaken by the AMA in working in these areas. A $100,000 custom van has been built by the engineering department at KU and equipped with sophisticated electronic and multi-media equipment to teach children in each of these distinct areas. Because less than five percent of the public schools in our nation have a comprehensive health education program, this van can play a very important role in taking this vital information to children of Kansas. The American Cancer Society approached KMSA about joining with them in this effort, asking us to play a liaison role in finding volunteers to help with the van when it goes to a specific community. Sue Synovec of Topeka will be chairing this project. She will contact the Alliance in a given community, if an organized Alliance exists, to serve as the core group of volunteers. If there is no active Alliance, she will contact the physician spouse or spouses and work through them to organize volunteers. This could have valuable spin-offs for membership in our organization as persons who have not previously belonged to the Alliance have a chance to participate in the work we do and witness the benefits to their own communities. The project will be piloted in two schools in the Topeka area and will begin traveling throughout the state next year. You will be kept posted on the progress.

The second project is one that is especially important to me. You are all aware of the partnership between the AMA and the Alliance to reduce the level of violence within our society. The AMA launched an initiative against violence several years ago, and this is the third year of the Alliance SAVE project to Stop America's Violence Everywhere. This project seeks to work on a key area of violence: that which takes place within the home, that we call domestic violence. The home, one place that should be safe, a sanctuary where each person can find comfort, support, and strength; for many is a place of fear and anger. Instead of being a place that nurtures, it destroys self-esteem and perpetuates violence.

The Alliance intends to enable you to make a major impact on violence by better equipping you, the physicians of our state, with the knowledge needed to better screen, diagnose, and refer the victims of domestic abuse whom studies tell us you see daily in your practice of medicine. Oh, these aren't just the women who come into the emergency room who have been beaten, shot, or raped by their spouse or boyfriend. That is only the tip of the iceberg. These are also women who have the stress-related illnesses that come from living in an abusive relationship: ulcers, depression, asthma, alcohol and drug abuse, insomnia. These are also their children who have a similar high incidence of these disorders. They are women and children who may look very much like your friends and neighbors.

We aim to enable you in this by producing a video and accompanying handbook targeted at better educating you, the physicians of Kansas, about the problem of domestic abuse as it exists within our state, and giving you the resources to screen, diagnose, and more easily refer to those services already in place. This project is being modeled after one done by the Iowa Medical Society and Alliance three years ago which has had far-reaching, very positive effects within their state. We are sure it will have similar positive effects in Kansas, as well.

Let me tell you about two experiences I had in recent months which have had a major effect on me and my commitment to this project. The first was a conversation I had during the early exploratory phases when I was trying to determine if such a project might be needed in Kansas. I had just returned from the Governor's Conference on the Prevention of Child Abuse in Topeka, where I had attended a session on the effects of domestic abuse on children. Ramon and I were having dinner that evening with an acquaintance. I was telling her about this particular session I had attended, the project I was considering as a focus for my year in the Alliance. Now, I was aware that this woman who recently moved to Kansas, is divorced and a single parent. Her educational level is higher than mine, and she holds a very responsible position in an institution of higher education within our state. But as I told her of my concerns about the problem of domestic abuse and its negative impacts on our society, she suddenly began sharing with me her own story of an abusive marriage. The abuse began after the difficult delivery of their son, initially as emotional isolation and rejection, but after four years gradually escalating to physical abuse. Of course, the physical abuse increased over time. What impressed me the most with this woman's story was her revelation that it was her physician to whom she finally confided her abuse–but it was not until the third time he asked her. Now, this woman had been referred by her

KMSA PRESIDENT'S INAUGURAL ADDRESS

Continued from page 45

physician to a local agency that helps abused women. She attended sessions and did volunteer work there. But it was sometime before she had the courage and strength to leave her abuser and seek a divorce. I asked her what finally led her to that decision. She said it was the first time her husband struck their son, who was then nine years old. What might have happened to that woman had her physician not been perceptive and asked her the right questions–not just one time but on three occasions? Would she have been able to remove herself from the situation without help? Or would she have become a tragic statistic? One who was ultimately killed by her abuser? And what might her son's future have been had she remained in the relationship?

The second experience took place a few months ago when I accompanied our son, Bryan, who is a contemporary Christian musician, to the Ellsworth Correctional Facility where he gave a concert as a volunteer with Prison Fellowship. As I sat in that prison chapel and looked around at the 50 or so inmates who had come to hear him sing, I was shocked at their youth. The average age seemed to be in the twenties, and some appeared to be only teens. Statistics tell us that the average age of the inmate population is steadily going down. Many of those incarcerated at Ellsworth are there for a first-time drug offense. But as I looked at them, I wondered how many of them had witnessed their mothers being abused by their fathers? How many of them had been terrified as small children that the one who was supposed to protect them might hurt them next? How many had become involved with alcohol and drugs as a means of escape from the reality in which they lived? And how many had already or will abuse someone else—their girlfriend or wife or child—because of what they had experienced in their own childhood?

Studies tell us that of the prison population nationally, 80 percent of the women and 50 percent of the men have been physically, sexually, or emotionally abused. Ninety-five percent of the men say they had no loving father figure. Those are tragic numbers, and the lives lost to productivity are far more tragic.

And I thought about the studies which Dr. Bristow cited in his address to us last fall in which women name their physician as the one to whom they are most likely to confide the fact that they are in an abusive relationship. What impact might it have on Kansas if there were an increase in the women and children currently trapped in these relationships who were diagnosed and referred for appropriate help? We can only speculate, but I wonder if the home were once again a safe sanctuary for those women and children, if ultimately they would not only be healthier, but the level of violence within our state might ultimately fall.

As physicians, you have tremendous power. The power to impact the lives of abused women and children. The power to give hope for the future.

The Alliance would like to be your partner to help you exercise this power by providing these educational resources of a video and accompanying handbook for all the Kansas Medical Society members. We have applied for grants to finance this project; I wish I could announce we have been funded, but right now I can't. We have been encouraged by many working in this field throughout the state that the money will be forthcoming, but we don't know that right now. Once funding has been received, the video will be produced by the Media Resource Center at Wichita State University. This project is under the capable leadership of Becky Collier of Wichita. She will be calling on some of you for help during various phases of the project. If all goes according to the time frame Becky has outlined, we will be premiering the video at the Convention in Salina one year from now. We will keep you posted on our progress.

We are physicians' spouses dedicated to the health of all Kansans. Thank you for the confidence expressed in me and the opportunity to serve as President of the Kansas Medical Society Alliance. I look forward to working with all of you during the coming year. KMS

Official Proceedings of the 1997 House of Delegates

At 8 a.m. on Saturday, May 3, 1997, the Kansas Medical Society and the Kansas Medical Society Alliance met at the Marriott in Wichita for a joint opening ceremony for their respective Annual Meetings. Speaker of the KMS House of Delegates, Robert Barnett, MD, thanked each of the delegates for their presence and participation and announced the order of business for the House.

KMSA President Carolyn Harrison, introduced a special guest, AMA Alliance treasurer, Ann Wrenn of Bloomington, Indiana. Mrs. Wrenn brought greetings from the AMA Alliance to the KMS Alliance and the delegates of the KMS House. She thanked delegates for their support of Alliance projects and expressed a desire to expand the support for the recently developed SAVE program. Mrs. Wrenn shared news of the success of the AMA-ERF fundraising efforts. She spoke, too, of the importance of grassroots involvement in medical legislation and encouraged members to continue their efforts to affect change at the county and state level. In closing, Mrs. Wrenn thanked Kansas physicians for their involvement in and support of Alliance activities.

Carolyn Harrison presented an official report of the KMS Alliance. She spoke of the numerous, varied programs and projects the county and state alliances had completed throughout the last year. Mrs. Harrison reported that Kansas raised over $27,000 for AMA-ERF this year. KMS Alliance membership declined some this year and Mrs. Harrison encouraged each of the KMS members to buy their spouse an Alliance membership. On behalf of herself and the entire Alliance, Mrs. Harrison thanked and recognized KMS President, Dr. David Ross, for his dedication to the activities of the Alliance. She also extended a special "thank you" to the Executive Committee of the Alliance and her family for their continued support throughout the year.

KMS President, Dr. David Ross, introduced AMA Trustee Dr. John Nelson. Dr. Nelson brought greetings from the AMA Board of Trustees and expressed his pleasure at the opportunity to address the House. Dr. Nelson shared news of the AMA's

OFFICIAL PROCEEDINGS

Continued from page 47

involvement in legislative efforts on the national level, detailing many of the successes and reporting on possible upcoming issues. Dr. Nelson also reported on the progress of AMAP (American Medical Accreditation Program) and encouraged physicians to express their opinions as the program is developed. In closing, Dr. Nelson invited members of the House to share with him any concerns or questions they had about the AMA or its programs.

The Speaker invited Dr. Ross to present the President's Report. Dr. Ross began by thanking the Alliance and Carolyn Harrison for their tremendous dedication to the health of Kansas.

Dr. Ross outlined a variety of accomplishments which occurred during the past year. KMS took an active role in reviewing legal implications of the conviction of Stanley Naramore, DO, a St. Francis physician convicted of second degree murder in the deaths of two patients. Dr. Ross, along with members of the KMS staff, met with the Attorney General of Kansas and the Kansas Board of Healing Arts to discuss the case. Additionally, KMS was preparing an amicus curaie brief to file should the case be appealed.

The Interspecialty Forum, begun under the leadership of Immediate Past President Dr. Linda Warren, were continued during Dr. Ross' tenure. At the Forum's meeting in the fall, Dr. Ross noted that the physicians, although they represented different specialties, expressed many more common concerns than diverse ones. "It seems," Dr. Ross commented, "that physicians, regardless of their area of expertise, are concerned about the loss of physician control over patient care."

Collaboration with the University of Kansas Medical Center has been profitable and positive over the past year, Dr. Ross reported. He also provided a progress report on the efforts to restructure the hospital.

Dr. Ross noted that in Kansas, managed care has no common definition and that in reality, "all care a physician provides is managed. Insurance companies dictating the treatment of patients is not managed care, it's wrong." He noted that the KMS Family of Companies works hard to provide physicians the tools they need to better manage the care they provide to patients. All four companies are dedicated to serving and advocating for Kansas physicians.

Finally, Dr. Ross detailed several of the legislative issues which had been of importance in the past year. He reminded physicians that the political environment would be tougher in the future and that "active participation in the political process is a necessity." He suggested that physicians get more involved in the issues, contribute to candidates, and educate their legislators. "Don't discount the value a legislator places on the input of a physician."

The speaker then declared the Joint Opening Ceremony closed and announced that the first House of Delegates would convene in 15 minutes.

Kansas Medical Society Membership

	*1996**	*1995**	*1994**	*1993**
Active	2547	2524	2347	2248
Active Second Year	87	80	87	77
Active First Year	43	56	40	35
Probationary	92	78	60	57
Resident	241	271	282	279
Student	652	528	344	223
Associate	72	60	49	44
Personal Exempt	28	31	11	8
Retired	523	524	510	507
Military Service	1	0	0	1
Military Exempt	0	0	0	1
Emeritus	53	52	52	55
Honorary	2	2	2	2
Semi-retired	8	7	3	2
Osteopathic Associate	78	62	17	0
Totals	***4427***	***4275***	***3804***	***3539***

* Year end totals

FIRST SESSION

Vice Speaker of the House Dr. Robert Barnett convened the first session of the 138th KMS House of Delegates at 9:20 a.m. and introduced Speaker Emeritus Clair Conard, MD. Dr. Barnett explained the composition of the House, outlined the rules and procedures to be followed, and noted that Davis' Rules of Order would be followed during the meeting. Only delegates would be recognized to vote; all others should convey their opinions to their delegates. The presence of a quorum was announced, and the minutes of the 1996 House of Delegates, as published in the 1996 issue of *Kansas Medicine*, were approved.

Dr. Conard outlined the procedure to be followed for the primary election, should it be necessary to conduct one. He read the slate:

President elect
Jimmie Browning, MD; *Clay Center*
First Vice President
Anne (Katie) Rhoads, MD; *Olathe*
Second Vice President
Terry Klein, MD; *Wichita*
Vernon Mills, MD; *Leavenworth*
Constitutional Secretary
Howard Wilcox, MD; *Hays*
Treasurer
Daniel Suiter, MD; *Pratt*
AMA Delegate
Jimmie Gleason, MD; *Topeka*
AMA Delegate
Linda Warren, MD; *Hanover*
AMA Alternate
Donald Brada, MD; *Wichita*
Mary Redmon, DO; *Kansas City*
AMA Alternate
Joseph Meek, MD; *Wichita*
Speaker of the House
Robert Barnett, MD; *Topeka*
Vice Speaker
Debra Doubek, MD; *Manhattan*
John Jeter, MD; *Hays*

There were no other nominations from the floor. Sincere there were no more than two candidates for any office, it was not necessary to hold a primary election. The election would be held during the second session of the House of Delegates.

Dr. Barnett called for the committee reports, announcing that some were submitted as written reports and placed in the delegates' notebooks.

Treasurer's Report

This report is included in the delegate's notebooks.

Constitutional Secretary

This report may be found in the figure on page 48.

Necrology report

Warren Meyer, MD

Dr. Meyer requested a moment of silent remembrance following the reading of the names. This report may be found in the figure on page 50.

Editorial Board

Warren Meyer, MD

The report of the editorial board may be found on page 52.

KaMMCO

Jimmie Gleason, MD

Dr. Gleason began by noting that KaMMCO celebrated its eighth birthday this year and the time has flown by. It was nearly 10 years ago that the idea which became KaMMCO was developed and to see it in action is a daily amazement.
Dr. Gleason reported that KaMMCO has a 90 percent win record in trial cases. He commented that medical malpractice insurance once stood alone as an issue of vital importance to physicians but now medical malpractice insurance is mixed with managed care, mergers and acquisitions. KaMMCO continues, Dr. Gleason shared, to work hard on loss prevention and legislative efforts. Challenges to the tort laws are coming quickly, and KaMMCO and KMS, are working together to safeguard the practice of medicine in Kansas. MSC, acquired by KaMMCO in 1994, is very successful and continues to grow. Dr. Gleason shared that the medical societies in both Vermont and Maine are considering "franchising" MSC in their states.

KaMMCO's service and its individual attention to physicians throughout the case process is what sets them apart.

Official Proceedings

Continued from page 49

Dr. Gleason encouraged the physicians to consider more than just cost as they make a decision to purchase medical malpractice insurance—service is more than cost, he said.

Dr. Gleason shared that of the 42 physician-owned medical malpractice insurance companies in the nation, only five require medical society membership. "We always will," he said.

Necrology Report

Name	*City*	*Age*	*Date*
Stuart C Averill, MD	Topeka	72	8-8-96
Clovis W Bowen, MD	Topeka	84	12-18-96
Caroline C Brown-Sanders, MD	Lee's Summit, MO	84	1-14-97
Paul B Burger, MD	Shawnee	71	6-28-96
Courtney Clark, MD	Wichita	66	7-27-96
David R Davis, MD	Emporia	93	8-3-96
Edwin W Enders, MD	Lenexa	93	9-21-96
Robert M Fenton, MD	Garden City	76	9-29-96
Edward D Funk, MD	Eudora	91	4-29-96
C B Harris, MD	Garnett	79	11-17-96
Lawrence E Hart, MD	Atchison	64	12-24-96
Robert G Heasty, MD	Manhattan	85	3-17-97
Calvin W Henning, MD	Ottawa	90	5-29-96
Herbert H Hesser, MD	Overland Park	89	5-7-96
Francis W Huston, MD	Winchester	90	2-13-97
Hiram P Jones, MD	Lawrence	90	1-26-97
Charles S Joss, Sr, MD	Topeka	82	6-24-96
William A Leo, MD	Shawnee	73	12-1-95
Fredrick Matassarin, MD	Wichita	81	10-29-96
John F Nienstedt, MD	Phoenix, AZ	88	7-27-96
George W Pogson, MD	Pittsburg	71	8-22-96
Vaughan C Price, MD	McPherson	91	2-19-97
David M Pugh, MD	Mission	67	1-29-97
James S Reed, MD	Lawrence	73	3-20-97
Raymond A Schwegler, MD	Lawrence	88	7-16-96
Chester E Scott, MD	Salina	72	6-3-96
John D Smith, MD	Salina	74	11-12-96
Louis N Speer, MD	Ottawa	81	6-3-96
Cornelius JP Sullivan, MD	Fishkill, NY	78	6-18-96
Lawrence E VinZant, MD	Wichita	75	11-4-96
William T West, MD	Wichita	72	2-4-97
Charles L White, MD	Quincy, WA	89	5-17-96
Eugene B Winchester, MD	Washington, DC	78	10-28-96
Fredrick P Wolff, MD	Pratt	75	6-19-96

Heartland Health

Bruce Gosser

"1997 promises to be an exciting year of growth and investment opportunities for Heartland Health," said Mr. Gosser. He provided the delegates with a brief history of Heartland Health. In 1995, the focus was on infrastructure creation; 1996 brought expansion of staff and aggressive network development; and the current year has shown current enrollment of 15,000; triple to that of 1996.

A large part of that growth has been enrollment in the Medicaid program. Currently, Mr. Gosser reported that the program is expanding region by region and that new counties are added to the structure on a regular basis. Horizon Health Plan, Heartland's HMO, expects to cover 16,000 lives by the end of 1997. Horizon Health Plan is also looking ahead and positioning itself for the possibility of insuring Medicare patients in the future.

Mr. Gosser outlined the company's plans for the remainder of 1997 which include adjustments in the rate structure for the commercial plans, increased network development, and the creation of more community health plans. He also detailed enrollment goals for the coming years.

In conclusion, Mr. Gosser explained the current stock offering and discussed Heartland's need for increased capital.

Executive Director

Jerry Slaughter

Mr. Slaughter opened his remarks by acknowledging Dr. Nelson and recognizing KMS officers. He thanked Dr. Ross for his efforts this year and expressed his optimism about Dr. Philipp's presidency. He also thanked Dr. Conard for serving as the Vice-Speaker. Mr. Slaughter noted that the family of companies—KMS, KaMMCO, MSC, Heartland—are linked by a common relationship and mission; that of advocating for physicians. He informed the delegates that the family of companies now has over 130 staff members and he encouraged them to get to know the individuals who work for them every day. Mr. Slaughter recognized members of the staff.

"What you have created, this family of companies, is pretty unique," Mr. Slaughter told the delegates. "People said Kansas was too small to accomplish these kind of efforts and you have proven otherwise." He encouraged physicians to be involved in KaMMCO, MSC, and Heartland as well as KMS.

Mr. Slaughter then reported on the latest legislative issues. In closing, he expressed his appreciation for the opportunity to work with such "fine folks." He shared his admiration for "what physicians do every day, one patient at a time."

The speaker called for unfinished business; there was none.

The speaker called for new business. Dr. Bigler introduced Resolution 97-29 regarding recognition of Cimarron Medical Society as Council District 20. Dr. Fritch-Kirby requested introduction of resolutions 97-30 and 97-31, regarding incremental change and AMAP respectively. Dr. Allred requested substitute language for Resolution 97-9.

The Speaker extended an invitation to all delegates to attend the Reference Committee meeting immediately following the first House of Delegates.

The rules for Council District elections were read. Districts needing to conduct elections were 2, 4, 11, and 19.

The members of the Reference Committee were introduced. They were Kevin Hoppock, Chair; Mark Synovec; Mike Mechan; Ray Allen; Daniel Pauls.

Following several announcements, the meeting was adjourned at 10:25 a.m.

SECOND SESSION

The Second House of Delegates was called to order by Speaker Robert Barnett, MD at 9:10 a.m. on Sunday, May 4, 1997. Rules by which the meeting would be conducted were reviewed, and the presence of a quorum was announced. Election ballots were distributed, and the Speaker named the tellers: Kermit Wedel, *Minneapolis*; Don Goering, *Coldwater*; and Phil Godwin, *Lawrence*.

The Speaker asked Reference Committee Chairman Kevin Hoppock, MD, *Wichita*, to present the committee's report. Dr. Hoppock read the committee's recommendation for each resolution, and Dr. Barnett invited discussion and voting by the delegates. (Results of these actions are printed on page 53.) Dr. Barnett thanked the Reference Committee for its work.

The election results were announced.

President elect
Jimmie Browning, MD; *Clay Center*
First Vice President
Katie Rhoads, MD; *Olathe*
Second Vice President
Terry Klein, MD; *Wichita*
Secretary
Howard Wilcox, MD; *Hays*
Treasurer
Daniel Suiter, MD; *Pratt*
AMA Delegate
Linda Warren, MD; *Hanover*
AMA Delegate
Jimmie Gleason, MD; *Topeka*
AMA Alternate Delegate
Joseph Meek, MD; *Wichita*
AMA Alternate Delegate
Don Brada, MD; *Wichita*
Speaker of the House
Robert Barnett, MD; *Topeka*
Vice-Speaker of the House
Debra Doubek, MD; *Manhattan*

The Speaker called for unfinished business. There was none.

The Speaker call for new business. Several resolutions were introduced, including a resolution of commendation for Sedgwick county and its Alliance.

Dr. Philipp, the newly elected President of KMS, addressed the House of Delegates. (The full text of Dr. Philipp's speech may be found on page 41.)

Dr. Philipp announced the newly elected councilors.

District 2
J Ralph Payne, MD; *Kansas City*
Alternate: Barbara Lukert, MD; *Kansas City*
District 4
Pending
District 11
Dan Caliendo, Jr, MD; *Wichita*
District 19
Charles Empson, MD; *Independence*
Alternate: James Wilson, MD; *Coffeyville*

Dr. Philipp installed the newly elected Speaker, Robert Barnett, MD and the Vice-Speaker, Debra Doubek, MD.

Dr. Philipp then announced that the next meeting of the House of Delegates will be held April 30-May 3, 1998, in Salina, Kansas. Following several other announcements, the meeting was adjourned. KMS

Report of the Editorial Board

Warren E Meyer, MD

Before I leave this life, I hope to be able to address this House of Delegates with the news that *Kansas Medicine* is meeting its publishing deadlines. We appreciate your patience. The KMS family of companies has availed themselves of Allison and Linda's services on a "must have" basis which regrettably has upset the publishing schedule of the Journal. Things seem to be settling down and Allison and Linda are looking forward to spending the necessary time and dedication to *Kansas Medicine*.

We welcome your comments about *Kansas Medicine* in our efforts to keep it as "your" journal. One of the first comments we received was that the new format was too large. In comparing the new edition with an older one it was discovered that it was in fact 1/4 inch wider than the older edition. We felt that if this perception became prevalent among the membership it might be wise to secure the services of a rabbi to correct the situation.

The Board hopes that the new added features: Lest We Forget, excerpts from previous editions of the Journal that hold their own in this "modern" age; In Memoriam which includes obituaries of deceased members of the Society; and The Last Word, comments by members on topics of current interest and controversy in our society will be of interest to you. We hope you will enjoy them and participate in these efforts. I refer to your participation in the new Last Word segment only.

Some of you have commented on the "empty spaces" on some of the pages. Perhaps we are being a little optimistic, but those "spaces" are for advertisements. No, our financial picture has not improved and, in all honesty, probably will not. We are eternally grateful that the Society has seen fit to express its confidence in and its desire to fund *Kansas Medicine*. The cost cutting and belt tightening measures (different, less expensive paper and going to two color rather than four color printing) have reduced the Journal's expenses. While we will continue to seek outside advertising, we are not hopeful.

A new undertaking of *Kansas Medicine* is to publish the editorials of Dr. David Gray, the former editor of the Journal of the Kansas Medical Society and *Kansas Medicine*, in book form. It is our hope that his wit, depth of insight, and the timelessness of his wisdom will be preserved for future generations. The Council of the Kansas Medical Society has endorsed this project. We have been going through his editorials with the help of some of the past presidents and picking those that most reflect the medical and social concerns of that year. The selection process has been completed and we are beginning the search for a publisher. The working title is "Gray Matter, the best of David Gray, MD." Hopefully, it will be available by this time next year.

Resolutions from the 1997 House of Delegates

Resolution 97-1

KMS-KFMC Relationship

Whereas, The Kansas Medical Society (KMS) and the Kansas Foundation for Medical Care, Inc. (KFMC, Inc.) have traditionally had a positive and collaborative relationship, and have worked on joint projects which are of benefit to KFMC, KMS, and the health of Kansans; and

Whereas, Endorsement by the KMS is beneficial to KFMC in serving as the peer review and quality improvement organization for Kansas; and

Whereas, KMS has provided assistance to KFMC throughout the years through its membership; serving on various KFMC committees, sub-committees and task forces; and

Whereas, Maintaining a positive relationship with the KMS membership is beneficial both to the membership and to KFMC's quality improvement initiatives; and

Whereas, KFMC and KMS share a commitment to improving the quality of health care provided to Kansans; and

Whereas, KFMC is committed to providing comprehensive peer review and quality improvement services as these services relate to any member of a patient's care team; and

Whereas, KFMC is celebrating in 1997 its 25th Anniversary of serving the Kansas health care community and Kansas patients; therefore be it

Resolved, That the KMS reaffirm its endorsement of KFMC; and be it further

Resolved, That KMS endorses KFMC as the Quality Improvement Organization and Peer Review Organization for Kansas; and be it further

Resolved, That the KMS endorsement be reviewed on an annual basis.

Resolution 97-2

Self-Referrals

Resolved, That the Kansas Medical Society adopt the following statement of the Council on Ethical and Judicial Affairs of the AMA concerning referrals to health facilities in which physicians have an ownership interest:

RESOLUTIONS

Continued from page 53

Conflicts of Interest: Health Facility Ownership by a Physician

Physician ownership interests in commercial ventures can provide important benefits in patient care. Physicians are free to enter lawful contractual relationships, including the acquisition of ownership interests in health facilities, products, or equipment. However, when physicians refer patients to facilities in which they have an ownership interest, a potential conflict of interest exists. In general, physicians should not refer patients to a health care facility which is outside their office practice and at which they do not directly provide care or services when they have an investment interest in that facility.

There may be situations in which a needed facility would not be built if referring physicians were prohibited from investing in the facility. Physicians may invest in and refer to an outside facility, whether or not they provide direct care or services at the facility, if there is a demonstrated need in the community for the facility and alternative financing is not available. Need might exist when there is no facility of reasonable quality in the community or when use of existing facilities is onerous for patients. In such cases the following requirements should also be met: 1) physicians should disclose their investment interest to their patients when making a referral, provide a list of effective alternative facilities if they are available, inform their patients that they have free choice to obtain the medical services elsewhere, and assure their patients that they will not be treated differently if they do not choose the physician-owned facility; 2) individuals not in a position to refer patients to the facility should be given a bona fide opportunity to invest in the facility on the same terms that are offered to referring physicians; 3) the opportunity to invest and the terms of investment should not be related to the past or expected volume of referrals or other business generated by the physician investor or owner; 4) there should be no requirement that a physician investor make referrals to the entity or otherwise generate business as a condition for remaining an investor; 5) the return on the physician's investment should be tied to the physician's equity in the facility rather than to the volume of referrals; 6) the entity should not loan funds or guarantee a loan for physicians in a position to refer to the entity; 7) investment contracts should not include "noncompetition clauses" that prevent physicians from investing in other facilities; 8) the physician's ownership interest should be disclosed to third party payers upon request; 9) an internal utilization review program should be established to ensure that investing physicians do not exploit their patients in any way, as by inappropriate or unnecessary utilization; 10) when a physician's commercial interest conflicts to the detriment of the patient, the physician should make alternative arrangements for the care of the patient.

RESOLUTION 97-3

KMS Health Care Access Objectives

Resolved, That the House of Delegates adopt the Health Care Access Objectives as printed:

Kansas Medical Society Health Care Access Objectives

The Kansas Medical Society Health Care Access Objectives are based upon the premise that all Kansans are entitled to basic health care services and that it is the responsibility of both private and government entities to encourage the development of a program to provide such care. It is the belief of the Kansas Medical Society that health care reform is needed; that quality patient care should remain the primary consideration; and that reform efforts should not discard the strengths of the existing system. The objectives are intended to outline a broad framework of action, and to encourage a process of collaboration among all interested parties. The principal objectives are:

1. Create a forum for dialogue and collaboration among interested parties for the purpose of defining a uniform health insurance plan to be made available to all Kansans. The uniform benefits plan should be offered, based on ability to pay, through a combination of government and private sources such as Medicare, an expanded Medicaid program, employers, private insurance, and a state risk pool for the uninsurable.
2. Encourage and support programs and incentives to train, recruit and retain an adequate supply of primary care physicians in order to improve access to health care in rural and other underserved areas.
3. Encourage insurance reforms which: a) spread financial risk broadly, as with community rating of policies; b) end cost-shifting among payors; and c) guarantee availability of the uniform benefits plan at reasonable cost.
4. Encourage programs that: a) promote healthy lifestyles; b) emphasize

preventive medicine; c) discourage unnecessary capital expenditures; d) discourage care and services which are of marginal benefit; e) reduce administrative costs; f) encourage cost-conscious utilization of services by patients and physicians; and g) actively encourage health care cost containment.

RESOLUTION 97-4

Patient Rights

Whereas, Every patient, regardless of gender, race, age, heritage, or diagnosis has a right to be treated with dignity and respect; and

Whereas, Patients have a right to the opportunity to obtain the services of a physician of their choice; and

Whereas, Patients, regardless of diagnosis, are entitled to the same quality of health care services as patients with any other diagnoses and similarly, are entitled to the same insurance coverage as other patients who are insured under the same kind of policy; and

Whereas, Patients are entitled to receive from their physicians all information relevant to their treatment; therefore be it

Resolved, That the Kansas Medical Society endorse the principle of third party payors providing mental illness benefits which are equivalent in scope and duration to those benefits provided for other illnesses.

RESOLUTION 97-5

Consumer marketing of prescription only medications

Whereas, During the last five years the pharmaceutical industry has greatly expanded its marketing of "prescription only" medications directly to the consumer; and

Whereas, Multimedia advertising adds directly to the cost of prescription medications, and also may decrease available funds for physician education; and

Whereas, The consumer does not have direct access to these products nor has the medical background to understand efficacy, drug interactions, or available alternative treatments; and

Whereas, This advertising has the potential to put the trust of the doctor-patient relationship in jeopardy; therefore be it

Resolved, That the Kansas Medical Society reaffirms its opposition to direct-to-consumer advertising of prescription drugs, medical devices, and diagnostic and therapeutic services.

RESOLUTION 97-6

Commendation for Kermit Wedel, MD

Whereas, Kermit Wedel, MD, has, for more than 30 years devoted his energies to the improvement of medical service in Kansas; and

Whereas, His faithful presence and leadership in the Kansas Medical Society through activities in the Saline County Medical Society, the KMS Executive Committee, Council and membership on numerous committees in the KMS has advanced the betterment of his profession and the public; and

Whereas, Dr. Wedel served as President of the Kansas Medical Society in 1982-83; and

Whereas, He has been instrumental in the development of the Heartland Health Network, serving as Chairman of the Board since its inception; and

Whereas, As delegate to the American Medical Association, he represented Kansas physicians with distinction for 20 years and was a respected voice in the AMA House of Delegates;

Whereas, This remarkable series of accomplishments have brought great credit to the Kansas Medical Society and to the medical profession; therefore be it

Resolved, That the Kansas Medical Society present to Kermit Wedel, MD, this resolution of admiration and thanks for his years of devoted service to the profession.

RESOLUTION 97-7

Commendation on AAMSE's 50th Anniversary

Whereas, The American Association of Medical Society Executives (AAMSE) is the professional association of medical society executives and serves their organizations indirectly by preparing medical society executives to be more effective advocates for the medical profession; and

Whereas, AAMSE has served to support the professional development and identity of all medical society executives; and

Whereas, The Kansas Medical Society has been served by these members of AAMSE through our society's staff; and

Whereas, Our AAMSE members have assisted the Kansas Medical Society in promoting the quality of health care delivered by our members;

RESOLUTIONS

Continued from page 55

therefore be it

Resolved, That the Kansas Medical Society expresses its sincere appreciation and commendation to AAMSE and our society's AAMSE members for their devotion to the advancement of medicine during this, AAMSE's 50th Anniversary.

RESOLUTION 97-8

Kansas medical student loan program

Not adopted

RESOLUTION 97-9

Participation by residents in managed care organizations

Whereas, Managed care is becoming an increasingly important component in the practice and education of resident physicians; and

Whereas, The optimal way to learn about the realities of managed care is through actual participation; and

Whereas, It is in the best interests of patient care in residency continuity of care clinics for patients to be able to identify their assigned resident-physicians who work under the supervision of faculty as required by the Accreditation Council for Graduate Medical Education; and

Whereas, It is in the long-term benefit of both MCOs and the State of Kansas that residents receive training in managed care; and

Whereas, Many MCOs currently exclude residents as providers from directly participating in their MCO; therefore be it

Resolved, That the Kansas Medical Society supports resident participation in MCOs as providers when working under the supervision of their faculty in accordance with Residency Review Committee criteria as part of residency training programs accredited by the Accreditation Council for Graduate Medical Education.

RESOLUTION 97-10

Ninnescah Medical Society name change

Whereas, The Ninnescah Medical Society voted to change the county society name at the last society meeting; therefore be it

Resolved, That the Ninnescah Medical Society be renamed the Pratt County Medical Society.

RESOLUTION 97-11

RBRVS

Not adopted

RESOLUTION 97-12

Kansas Board of Healing Arts licensing fees

Whereas, The Kansas Legislature, during the 1997 session, passed legislation which increased the statutory cap on fees charged to persons licensed, registered, certified, etc. by the Kansas Board of Healing Arts; and

Whereas, The need for this increase was justified on the basis of generating adequate income to offset the board's annual operating expenses since the statutory maximum has not been increased in several years, and the board receives no financial support from the state's general fund to carry out its assigned responsibilities; and

Whereas, While the board requested this enabling legislation, representatives of the board indicated that the board did not anticipate increasing fees to the new statutory maximums at any time in the near future; and

Whereas, The requested increase in fees may be justified in order for the board to carry out its existing and projected workloads, internal efforts based on sound management practice should be initiated to determine if any of the board's current operating procedures and policies could be modified to accomplish a more cost effective and efficient operation; and

Whereas, a three-year relicensing cycle would even out the work load and coincide with current reappointment requirements of the Joint Commission on Accreditation of Health Care Organizations and the National Committee for Quality Assurance, and should be cost effective, and not compromise the board's ability to meet its legal responsibilities; therefore be it

Resolved, that the Kansas Medical Society support changing the frequency of all relicensing and re-registering by the Board of Healing Arts from the current one-year cycle to a three-year cycle based on the licensee's birth date; and be it further

Resolved, That the Kansas Medical Society Council initiate discussions with the Kansas Board of Healing Arts to accomplish this recommended change in the current relicensing, reregistering and re-certifying cycle as soon as possible.

RESOLUTION 97-13

Graduate medical education and physician workforce issues

Whereas, Authoritative studies concerning the United States physician work force have indicated that the U.S. is on the verge of a serious oversupply of physicians; and

Whereas, The results of physician oversupply will negatively impact society at large as well as physicians individually; and

Whereas, The American Association of Colleges of Osteopathic Medicine, American Medical Association, American Osteopathic Association, Association of Academic Health Centers, Association of American Medical Colleges, and the National Medical Association have formulated a consensus statement addressing this issue; therefore be it

Resolved, That the Kansas Medical Society House of Delegates indicate its support of the concepts included in the "Consensus Statement on the Physician Work Force" and that administration of the University of Kansas School of Medicine be encouraged to give deliberate thought to the study's conclusions and recommendations, in their planning and implementation of medical education programs to meet the future physician manpower needs of Kansas.

RESOLUTION 97-14

Infection control in long-term care facilities

Whereas, The Kansas Department of Health and Environment (KDHE) is responsible for surveying and licensing nursing homes in Kansas; and

Whereas, Serious concerns and questions have been raised by physicians, hospitals and nursing home personnel regarding KDHE's current infection control guidelines, especially those relating to resistant organisms; and

Whereas, Since this issue affects patients, hospitals, physicians and nursing homes throughout the entire state; and

Whereas, For these types of control programs to be successful, it is necessary that a rational approach be followed in developing and implementing the appropriate control guidelines; therefore be it

Resolved, That the Kansas Medical Society in cooperation with other involved entities convene as soon as possible, a meeting with appropriate representatives of the Kansas Department of Health and Environment for the purpose of reviewing the current infection control guidelines for Kansas nursing homes and making changes as deemed necessary so as to establish a reasonable and practical infection control program which can be carried out uniformly throughout the state of Kansas.

RESOLUTION 97-15

Use of the term physician

Whereas, Under the Kansas State Board of Healing Arts Act, and in accordance with Kansas law, use of the term "physician" has been restricted to medical and osteopathic practitioners; and

Whereas, This restriction was affirmed by a formal Kansas Attorney General's opinion in 1987 and a Shawnee County District Court decision (case #91-CV-388) in August 1992; and

Whereas, Efforts were made during the 1997 Kansas legislative session to permit chiropractors to use the term "chiropractic physician;" and

Whereas, Allowing chiropractors to identify themselves as physicians would imply training equal to medical and osteopathic practitioners, thus being untrue and misleading to the public; and

Whereas, In the yellow pages of some Kansas telephone directories, chiropractors are listed under the heading Chiropractic Physicians–DC; therefore be it

Resolved, That in keeping with Kansas law and relevant court decisions, the Kansas Medical Society Council initiate discussions with representatives of the involved Kansas telephone directories to accomplish deletion of any reference to the word "physician" in the chiropractic yellow page listings.

RESOLUTION 97-16

KMS Medical Practice Committee

Referred to Executive Committee

RESOLUTIONS

Continued from page 57

RESOLUTION 97-17

Mandating health care benefits and payment for services

Whereas, In response to concerns from all sectors regarding escalating health care costs and health care expenditures, considerable effort over the past few years has been directed towards reducing costs and containing total health care expenditures; and

Whereas, While these efforts have met with some success, they have impacted the freedoms heretofore favored and enjoyed by patients and health care providers; and

Whereas, In reaction to the public's (patient's) outcry to the myriad of new rules and changes brought about by health care reform and managed care, such as precertifications, second opinions, preferred and non-preferred providers, in and out of area service networks, access penalties, etc., state legislatures and congress have responded by passing legislation mandating insurance coverage of specified health benefits and payment for services; and

Whereas, The National Center for Policy Analysis recently reported that, "in 1995 there were only seven state mandated benefits; today there are nearly 1,000." Prior to 1996 all of these mandates were created by the individual states. In September, 1996, Congress passed the first federal mandates, these relating to maternity stays and mental health care; and

Whereas, While some mandates have a marginal affect on costs, others have a significant impact, it is generally agreed that most mandates increase utilization of the health care system, increase total health care expenditures and ultimately will increase health insurance rates; and

Whereas, While the intent and philosophical justification of health care legislation is to help one's constituents and the public at large, it can be concluded that continuation of the current trend of mandating benefits and payment for services could price health insurance coverage out of reach of many small employers and the self employed, thus adding to the estimated 40 million Americans who do not have health care coverage; and

Whereas, Some state legislatures have recognized the problems and consequences associated with mandating health care benefits and payment for services and are now beginning to consider action to limit mandating benefits; therefore be it

Resolved, That the Kansas Medical Society is, in general, opposed to increasing legislatively mandated health care benefits and services; and be it further

Resolved, That the KMS encourage the development of an organization which includes payors, providers, and patients to help identify a health care benefits package that is rational, thus reducing the necessity of legislative mandates; and be it futher

Resolved, That the KMS, through its legislative and educational activities, inform the members of the Kansas legislature, the public, and physicians of the problems and consequences associated with mandating health care benefits and payment for services.

RESOLUTION 97-18

ERISA and managed care plans

Whereas, The federal Employee Retirement Income Security Act (ERISA) was enacted some twenty years ago for the purpose of allowing uniformity in the design and administration of health plans for large, multi-state employers; and

Whereas, Through this action, ERISA covered plans are exempted from most state insurance laws and regulations including state mandated benefits; and

Whereas, The courts, except for some recent decisions, have interpreted health plans that contract with employers under ERISA to be exempt from suit for the health care plan's own malpractice and negligence; and

Whereas, This position leaves practicing physicians contracting with these types of health plans potentially liable even though care was provided in accordance with the health plan's policies and procedures; and

Whereas, In some situations, the patient or the physician may be individually responsible to pay for the medical services provided, that the physician, but not the health care plan, determines are medically necessary; and

Whereas, Fairness and reason call for managed care plans to be legally responsible for their acts and omissions; and

Whereas, The American Medical Association has initiated action at the national level addressing the liability issues of ERISA covered heath plans; therefore be it

Resolved, That the Kansas Medical Society House of Delegates support the American Medical Association's initiatives to correct the deficiencies currently included in the existing Employee Retirement Income Security Act (ERISA) relating to the medical-legal responsibilities of health care plans, and be it further

Resolved, that KMS inform the Kansas Congressional Delegation and the KMS membership about the unfairness of immunizing ERISA plans from liability for their actions.

RESOLUTION 97-19

Proposed Medicare drug reimbursement charges

Whereas, On March 28, 1997, the Administration transmitted to Congress its proposed changes in Medicare's method of reimbursing physicians for drugs administered in their offices. The change calls for paying no more than 80 percent of the drug's actual acquisition cost instead of the current 80 percent of the average wholesale price. The acquisition cost is to be stated on each submitted claim form; and

Whereas, The acquisition cost of a drug would be defined as the lowest price the physician paid for that drug in the past six months, regardless of what the physician paid for the drug actually administered to the Medicare patient. The Medicare payment in each calendar year would not exceed 80 percent of the national median acquisition cost reported during the previous July 1 - June 30 period. This change could result in out-of-pocket losses to physicians; and

Whereas, The proposed changes ignore the overhead costs incurred by physicians, in carrying out their practices; would create an accounting nightmare; and overall, would provide inadequate reimbursement with inherent ramifications; therefore be it

Resolved, that the Kansas Medical Society closely monitor the proposed changes to the Medicare drug reimbursement guidelines and communicate with the KMS membership and the Kansas Congressional Delegation on the impact this legislation will have on Medicare patients and practicing physicians.

RESOLUTION 97-20

Telephone services

Referred to Executive Committee

RESOLUTION 97-21

Scope of practice determinations

Referred to Executive Committee

RESOLUTION 97-22

Safeguarding the use of National Practitioner Data Bank information

Whereas, The National Practitioner Data Bank (NPDB) was established in 1986 to protect the public from "incompetent practitioners;" and

Whereas, Many competent practitioners are reported to the NPDB each year because they are named in medical malpractice lawsuits; and

Whereas, The AMA regularly has pursued vigorous remedial action to correct all operation problems with the NPDB "especially to be sure that the information in an individual physician's data bank file not be released to or fall into the hands of, individuals and organizations that are not authorized to obtain it, such as patients, attorneys, news organizations, etc.;" and

Whereas, The only entities authorized to view information in the data bank are hospitals and other health care entities that: (1) provide health care services, or 2) engage in formal peer review activity; and

Whereas, By this definition, many managed care organizations, professional liability companies and other health care organizations are not authorized to query the data bank; and

Whereas, In recent years, some health care organizations have attempted to circumvent the intent of the law by requiring physicians to "self-query" the data bank and turn the information over to them; and

Whereas, The AMA encourages the physician to demand that any health care organization which asks for her or his NPDB files guarantee that the information be protected and not used except as authorized by the Health Care Quality Information Act; therefore be it

Resolved, That the Kansas Medical Society will inform Kansas physicians who may be compelled to self query the data bank of ways to safeguard the information released in self query of the data bank; and be it further

Resolved, That KMS teach physicians strategies of protecting the information from disclosure and ways to be safeguarded by the organization in writing that the

RESOLUTIONS

Continued from page 59

information will be:
1) Protected from further disclosure;
2) Used and safeguarded by the organization in compliance with the intent of protection of the Healthcare Quality Improvement Act.

RESOLUTION 97-23

AMA House of Delegates decisions dictate action of AMA

Withdrawn from consideration

RESOLUTION 97-24

Votes of AMA Board of Trustees

Withdrawn from consideration

RESOLUTION 97-25

KidCare

Referred to Executive Committee

RESOLUTION 97-26

Separate licensing agency for physicians

Referred to Executive Committee

RESOLUTION 97-27

Formulation of RBRVS practice expense relative value units

Whereas, In 1992, Medicare implemented the Resource Based Relative Value Scale System for Medicare Fee Schedule payment. At that time, it was expected that this information would be calculated on a scientific basis and that it would be fair for all physicians; and

Whereas, Incorporated in that law HCFA has been ordered to collect actual practice expense data for the various specialities and implement appropriate scientific changes documented by data on January 1, 1998; and be it

Resolved, That the Kansas Medical Society continue to update its members on an annual basis about the status of RBRVS; and be it further

Resolved, That the Kansas Medical Society is opposed to efforts by the government to manipulate the RBRVS for political purposes or to achieve budget neutrality; and be it further

Resolved, That the KMS support the original intent of RBRVS, and that the new practice expense data be based on actual data collected in a scientific manner, and that the KMS support the AMA's effort to extend the implementation date of the new practice expense data by one year to January 1, 1999; and be it further

Resolved, That KMS convey its position on the development of the new practice expense data to each member of the Kansas congressional delegation; and be it further

Resolved, That KMS present a resolution to the AMA that the material created and the process of updating RBRVS be open, available, and accessible to all physicians.

RESOLUTION 97-28

Membership

Whereas, The Council authorized a task force to study the issue of membership in the Kansas Medical Society; and

Whereas, The study included the issue of joining through a component medical society or directly to the Kansas Medical Society; and

Whereas, Because of several problems with the application of the bylaws change enacted last year which requires Associate and Osteopathic associate members to join through the component society, the Council temporarily suspended enforcement of that bylaws provision pending study by the task force; and

Whereas, The Council voted to introduce a resolution amending the bylaws to incorporate these changes on a permanent basis; and

Whereas, The Task Force identified other technical changes that were desirable; therefore be it

Resolved, That the bylaws be amended as indicated on the attached excerpts from the bylaws.

RESOLUTION 97-29

Reaffirmation of Cimarron County Medical Society

Referred to Council

RESOLUTION 97-30

Incremental change

Withdrawn from consideration

RESOLUTION 97-31

AMAP

Not adopted

RESOLUTION 97-32

Commendation of the Medical Society of Sedgwick County and its Auxiliary

Whereas, The Medical Society of Sedgwick County and the Medical Society of Sedgwick County Medical Auxiliary have made an outstanding effort in arranging for the many different parts that contributed to the successful 138th annual meeting of the House of Delegates of the Kansas Medical

Society and the 72nd annual meeting of the Kansas Medical Society Alliance; and

Whereas, The scientific program was both informative and stimulating in content and presentation under the direction of the University of Kansas School of Medicine–Wichita Campus; and

Whereas, The Alliance's AMA-ERF fundraiser was again an opportunity for fun, fellowship, and financial success; and

Whereas, The opportunity to golf, visit, renew old acquaintances, and meet new friends and colleagues has been enhanced by the effort and the energy expended by their committees; therefore be it

Resolved, That the House of Delegates of the Kansas Medical Society here assembled commend the Medical Society of Sedgwick County and the Medical Society of Sedgwick County Auxiliary for their work in assuring the success of the meetings of the Kansas Medical Society and its Alliance; and be it further

Resolved, That copies of this resolution be forwarded to the Medical Society of Sedgwick County and the Medical Society of Sedgwick County Auxiliary.

RESOLUTION 97-33

Kansas Society of Otolaryngology-Head & Neck Surgery

Whereas, The Section, Otolaryngology-Head & Neck Surgery voted to change its name to the Kansas Society of Otolaryngology-Head & Neck Surgery; therefore be it

Resolved, That section 4.5814 of the bylaws be amended by deleting "Section, Otolaryngology-Head and Neck Surgery" and inserting "Kansas Society of Otolaryngology-Head and Neck Surgery."

RESOLUTION 97-34

Recognition of service to Clair Conard, MD

Whereas, Clair C. Conard, MD, has, for more than 40 years, devoted his energies to the improvement of medical service in Kansas; and

Whereas, Dr. Conard served as delegate to the American Medical Association from 1978-83, Speaker to the KMS House of Delegates from 1978-82, and as President of the Kansas Medical Society in 1985-86; and

Whereas, Dr. Conard agreed to assist the Vice-Speaker in conducting the business of the 1997 KMS House of Delegates; therefore be it

Resolved, That the Kansas Medical Society present to Clair Conard, MD, this resolution of admiration and thanks for his years of devoted service to the profession and outstanding performance as Speaker Emeritus before the 1997 House of Delegates.

RESOLUTION 97-35

Recognition of special service to medicine to Donald Goering, MD

Whereas, Donald Goering, MD, has, for more than 40 years, devoted his energies to the improvement of medical service in Kansas; and

Whereas, Dr. Goering served as President of the Kansas Medical Society in 1979-80, as alternate delegate to the American Medical Association from 1981-83, and as delegate to the American Medical Association from 1983-85; and

Whereas, Dr. Goering was elected 1996 Kansas Family Physician of the Year by the Kansas Chapter, American Academy of Family Physicians; and

Whereas, Dr. Goering's caring resulted in an outpouring from his local community of Coldwater, Kansas, of nominations for the national Family Physician of the Year award; and

Whereas, Dr. Goering was elected as the American Academy of Family Physician's 1997 Family Physician of the Year; therefore be it

Resolved, That the Kansas Medical Society present to Donald Goering, MD, this resolution of admiration and thanks for his years of devoted service to the profession; and therefore be it further

Resolved, That the Kansas Medical Society express their congratulations to Dr. Goering on his outstanding achievements in medicine. KMS

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Council District reports to the 1997 House of Delegates

Council District 1

On November 12, 1996, David Ross, MD, KMS President and Mrs. Carolyn Harrison, KMS Alliance President, visited our annual Council District Meeting. A good discussion was had about KMS policy and how the State Medical Society was working to represent their interest.

Heartland Health and Horizon are now being actively marketed in our council district. Heartland Health and Horizon continue to try to get more involvement with primary physicians in our southern council district. This area is experiencing severe competition because of the continued expansion of the adjacent Kansas City Metropolitan market.

The major practice issues center around practice expenses which continue to spiral upward while practice income is becoming close to stagnant. This trend is prompting solo and smaller practices to look toward merging with larger entities, a process not unique to our council district.

Leavenworth County continues to be a battleground as competition between local hospitals, national hospital chains, and managed care companies is heating up. Physicians remain hard at work taking care of their patients and respective practices, but loyalty issues are being forced by hospitals and managed care companies and to some degree may be a wedge to curtail physician unity which may in the end thwart physician self-determination.

Vernon A. Mills, MD, Councilor

Council District 3

The mission statement of the Johnson County Medical Society is "to foster solidarity and professionalism among physicians." Solidarity means unity among a community of interests, standards and objectives. Our goals for the past year have been the following:

- advocacy and activism
- medical practice support
- public relations

COUNCIL DISTRICT REPORTS

Continued from page 63

- community service
- collaboration among medical groups
- social interaction
- raise awareness on healthcare issues

In an effort to acquaint community members with the daily lives of physicians, the Physician Preceptor Program was developed. The first program had eight business and community leaders as participants. Four years after the program's inception, the Society has completed the 13th program. More than 138 community leaders and 95 physicians have been involved.

Dr. Tom Williams' leadership has drawn interest from physicians in all specialties of medicine. He has recruited physicians extensively to become preceptors in this program.

Columbia Overland Park Regional Medical Center, Menorah Medical Center, Mid-America Rehabilitation Hospital, Olathe Medical Center, Saint Luke's Shawnee Mission Health System, and St. Joseph Health Center have been sponsors of this program. They have allowed participants to view and experience caregiving in different areas of their hospitals.

The Annual Legislative Dinner was held at the National Collegiate Athletic Association (NCAA) Hall of Champions. As one of its projects each year, the Society invites Kansas state senators and representatives to a dinner as guests of the society members. One hundred seventy-five members, legislators and guests attended the event.

Kenneth L. Derrington, MD, was honored during the Annual Legislative Dinner on September 24, 1996. Dr. Derrington developed a task force to care for the medically uninsured workers of Johnson County. His vision in 1982 has evolved into the Health Partnership Clinic located at 8600 West 95th Street.

A roundtable forum with the physicians and legislators was the format for the Annual Legislative Breakfast held in the Board Room of the Olathe Medical Center. The breakfast was held Saturday, February 1.

Lester (Ritch) Richardson, DO, chairman, meets quarterly with the Emergency Medical Service Committee. The protocols of Med-Act of Johnson County have been reviewed. The committee members represent various specialities and hospitals.

David Ross, MD, President of KMS, and Carolyn Harrison, President of the KMS Alliance, visited Wyandotte and Johnson counties in February.

Judge Steve Tatum convened a task force (COM VAC-Community Violence Action Council) to study ways of preventing domestic violence. Representatives from the Johnson County Medical Society are Nan Schaper and Zita Surprenant, MD. A small pamphlet entitled "Domestic Violence–Know your Options" was published. A social worker in the Johnson County District Attorney's office wrote the pamphlet. The cost was shared by the Johnson County Medical Society and the Johnson County Bar Association.

The pamphlets were distributed to the offices of Family Practice, Internal Medicine, and Pediatric physicians, as well as to the offices of Orthopedic and Plastic Surgeons. The Society office has received approximately 20 requests from all over the state for copies of the Domestic Violence pamphlet, due to an article written about it in the AMA Newsline.

The Healthy Kids Council planned a day of continuing education for school nurses, teachers, social workers, and counselors on Thursday, August 8, at the Johnson County Community College. The Healthy Kids Council is a coalition of the Johnson County Medical Society and its Alliance, the Johnson County Community College, the county hospitals, schools, and Johnson County Health Department. The council's mission statement is "striving for solutions to healthcare challenges of Johnson County youth."

Regina Nouhan, MD, and Jeremy Baptist, MD, were judges for the Greater Kansas City Science Fair. Gift certificates and prizes to the first and second place entries under the name of "The Physicians of Greater Kansas City" were presented to the winners. Johnson County, Metropolitan Medical, and the Jackson County Osteopathic societies each provided two judges for the biological division of awards.

The Women's Medical Group continues to meet the third Wednesday of each month for dinner. The physicians from the Metropolitan area gather at 7 p.m. for social gathering and discussion. Visiting professors and physicians have been invited to join the group for the evening. Those guests describe the practice of medicine in their area of the world.

A new format has been developed for the monthly newsletter. We are using color and more photographs. Each month one physician is interviewed for the feature article. The publication is mailed to 600 physicians and area health care professionals.

The Office Personnel luncheon continues to meet on the fourth Tuesday over lunch in an area restaurant. Roundtable group discussions are held regarding pertinent topics in healthcare.

The Society members are a diverse group. A recent breakdown of membership revealed the following statistics. Of the 510 members; 419 are men and 91 are women. The majority of the membership can be found in the 41-50 year-old age group with 181 members. The 31-40 age groups follows closely behind with 133 members. The third largest group at 65 members is aged 55-60, with the 65 and over group coming in fourth with 57 members.

JCMS has 410 members who are active in the Kansas Medical Society. Out of this large group, nine members are in their first year of practice and 19 are in their second year. The KMS participants also include 31 associate members and one emeritus member.

For the AMA, JCMS counts 247 active members and 204 non-members. JCMS also notes that 445 of its members are Sustaining contributors of the Kansas Medical Political Action Committee with donations of $150; while 47 are counted as Regulars with $100 contributions.

Our Society President is Charles M Striebinger, MD, and Nan Schaper is President of the Johnson County Medical Society Alliance.

Paula L Nauer, MD, Councilor

COUNCIL DISTRICT 4

Events in Council District 4 have continued in a rather uneventful manner. All three component societies, Bourbon, Crawford/Cherokee, and Labette counties, have continued to have regular meetings including medical education programs. The Crawford/Cherokee County Medical Society continues its task of oversight of the EMS system. The Crawford/Cherokee County Society was also host this year to the annual visit from the KMS President and the Auxiliary President.

I would like to add a personal note of appreciation for the opportunity to represent the physicians of these counties in Southeast Kansas. I have valued the opportunity to be a council member. I have really gained an appreciation of the Kansas Medical Society and the role that it plays in assessing and meeting the needs of Kansas physicians.

Daniel N Pauls, MD, Councilor

COUNCIL DISTRICT 5

The first meeting of the 1996 calendar year was held on September 18, 1996. Special guests of the Society included Jay Schukman, MD, Medical Director of Heartland Health, and Carolyn Price, Director of Health care Finance, Kansas Medical Society. The program was entitled "Medicine in Transition–Help to Fit the Future." Ms. Price gave a nice presentation on HMOs while Dr. Schukman reported on the competitive environment. The KMS President's visit to Council District 5 was held on October 29, 1996, with our program speakers: Mrs. Carolyn Harrison, President of the Kansas Medical Society Alliance, and David Ross, MD, President of the Kansas Medical Society. Dr. Ross spoke about the activities of KaMMCO, Medicaid and HealthNet. The November 20, 1996, meeting saw the election of our new officers: Debra Doubek, MD, President; Steve Haug, MD, Vice-President; Donald Huang, MD, Secretary-Treasurer; Scott Coonrod, MD, Member of the Executive Committee; Robert H Cathey, MD, Board of Censors; and KMS Delegates: Doubek, Haug, John Barlow, MD, and Alternate Rex Fischer, MD; KMS Council: Jim Gardner, MD, and Lou Klobasa, MD, Professional Practice Standards Review Committee. Tom Hardy, MD, Commander at Irwin Community Hospital, Fort Riley, Kansas, guest speaker, addressed the situation at Irwin Army Hospital and Tri-Care and Robyn Goates, Medicare, spoke in regard to Medicare laboratory tests and reimbursement. Doctors Jacqui Seaton and Scott Burk were welcomed as new members to the Society.

On January 15, 1997, the program was presented by Manhattan physician Steve Short, DO. The topic of Dr. Short's presentation was "A Potpourri of Pulmonary Diseases" and at this meeting Dr. Doubek began a monthly tradition entitled "A Look Back" which is a review of the medical events and occurrences in Riley County in the 19th and 20th centuries. Members considered joining the Community Health Council, a council of approximately 30 members from the community, including physician representation, who respond to local health care concerns. At the February 19, 1997, meeting, James LaSalle, MD, spoke on "Chromotherapy in Cardiovascular Diseases in the '90s." The Society voted to join the Community Health Council and paid the $500.00 membership. On March 19, 1997, a dinner and spring style show with physicians and their spouses was held. Our speaker for the evening was Jeffrey Curtis, MD, Topeka cardiologist who spoke on "Lipid Update:

COUNCIL DISTRICT REPORTS

Continued from page 65

Focus on Atorvastatin." A special presentation was made on behalf of our incoming KMS President and member of the Riley County Medical Society, Joseph T. Philipp, MD. The Society presented Dr. Philipp with a leather briefcase with an inscription from the Riley County members.

At the April 16, 1997, meeting, John Murray, MD, University of Massachusetts School of Medicine, spoke on Allergic Rhinitis. Our May 21, 1997, meeting is yet to be held and will feature Thomas Donahue, MD, St. Louis University.

Some of the highlights from the past year included the fact that Riley County is currently vying for a hubsite for the statewide medical education network that the University of Kansas School of Medicine has established. To date, four sites have been selected–one in Hays, one in Garden City, one in Salina and one in Pittsburg, Kansas. Later this year the southcentral and northeast Kansas network sites will be chosen.

It was discussed and recommended that the site of the annual KMS meeting in 2001 be held here in Manhattan.

Robert G Heasty, MD, longtime member of the society, passed away on March 17, 1997.

Members have agreed again this year to hold a summer picnic for physicians and their spouses in August 1997. This was looked upon as an opportunity for seven new physicians who will be arriving to start practice in Manhattan over the summer months to interact with their colleagues as well as increase the ranks of the local Society membership.

In conclusion, the Riley County Medical Society is honored and extremely pleased that our own Joe Philipp, MD, ophthalmologist from Manhattan, will be inducted as President of the Kansas Medical Society for 1997-98 on Saturday, May 3, 1997, in Wichita, Kansas.

Deb Doubek, MD, President

COUNCIL DISTRICT 6

Our former Councilor, Thomas Coolidge, MD, resigned his position recently to accept a new employment opportunity in Idaho. I was elected at our March 4th meeting to fulfill his two-year unexpired term.

Much change has occurred in our Society this past year. The SCMS signed an 18 month management contract with the Kansas Medical Society to assist us in managing our affairs while the Board of Directors evaluates future directions for the Society. The office was closed and all records were transferred to the KMS office. The Board of Directors is actively meeting again to deal with organizational restructuring and identifying services that will benefit our members.

A series of educational programs on Medicare/Medicaid Fraud and Abuse has been presented to inform our members of all aspects of the new law. We hope to develop informational items that will assist physicians to deal with compliance matters in their offices.

SCMS actively supported the Race Against Breast Cancer program this year. Office space was provided and various members assisted in the planning efforts.

The Senior Section continues to meet the second and fourth Friday of each month for coffee and discussion.

During the balance of this year the Board of Directors will be developing a plan for the continued future of SCMS.

Ashraf Sufi, MD, Councilor

COUNCIL DISTRICT 7

As the councilor for District #7, I am happy to report last year's activities to be submitted to House of Delegates. Since my last report, we have elected new officers. The president is John C Lloyd, MD, Program Director, Melinda Morris, MD, and Treasurer/Secretary, Norman Fordyce, MD.

We have had monthly meetings September through May and have had guest speakers each month. In October, the District Council came to Emporia to report on the current status of the Kansas Medical Society.

Nelson P H White, MD, Councilor

COUNCIL DISTRICT 8

Activity this past year has been highlighted by multiple interesting lectures by a diverse group of individuals including professors from the University of Texas on the Scandinavian study of lipids. We also had updates on diabetic treatment and concerns in the use of cardiac drugs, an individual from Cooper Clinic in Dallas on treatment of lipid evaluation and coronary artery disease, and a lecture series on GI related issues.

In October of 1996, District 8 did convene including Butler, Greenwood, Sumner and Cowley counties. The President of the Kansas Medical Society, David K Ross, MD, attended the district meeting and discussed the aims and objectives of the Kansas Medical Society. Also attending the meeting was the Alliance President, Mrs. Carolyn Harrison, who talked about her plans for the Alliance; both physicians from Butler and Sumner counties attended.

Membership has stayed the same except Dr. Newton Smith, previous counselor and coroner for Cowley County has retired. Angela Myer, MD, joined Cowley County Society in Winfield. Meetings have continued to rotate between Arkansas City and Winfield. Attendance has been excellent over this time. Most of these lectures have been sponsored by pharmaceutical companies who furnish the speaker and also finance the dinner.

Recently SCRKMC and the physicians of Ark City and Heartland Health have joined to form an alliance to develop a community health network and they are in the process of developing those plans. We continue to look forward to working with Heartland Health and again striving to maintain high membership in the organization. The whole district continues to be optimistic about the future of health care and feel that the changes occurring, although sometimes seem for the worse, certainly present an opportunity which can benefit both the medical society as well as our patients. We continue to look forward to working with the medical society and hopefully continue to have a very positive relationship.

Rick D Schoeling, MD, Counselor

COUNCIL DISTRICT 9

In late 1995, Salina's two hospitals (formerly Asbury Regional Medical Center and St. John's Hospital) merged to form the Salina Regional Health Center. During 1996, many duplicated services were consolidated with each campus having some separate services. Emergency room coverage, rehabilitation, ICU, pediatrics, and inpatient surgeries are being done at the Asbury campus, with skilled nursing services and radiation therapy are being done at the Penn Campus. Two new state-of-the-art items were obtained by radiology during the previous year. A stereotactic breast biopsy machine with digital imaging allowing faster imaging and better resolution was obtained. Also, a new dual head nuclear medicine camera is now in use which will allow simultaneous imaging from two directions 90 degrees apart, and also the machine will allow better evaluation of cardiac function looking at real time cardiac wall motion and evaluation of cardiac ejection fractures.

The Salina Health Cares Clinic that was established in 1991 continues to expand and provide health care services to low income families and individuals in Saline county. Eight hundred five Saline County residents received services through the Salina Health Cares Clinic in 1996, plus an additional 147 referrals were made for specialty evaluations.

In the spring of 1996, the Smoky Hill Practice residency program was selected to receive the National Rural Health Association outstanding rural health program award. This award recognizes the Smoky Hill Family Practice residency program as the best statewide or regional program in the United States which promotes or facilitates the development of rural health care delivery systems. The vast majority of graduates from the Smoky Hill Family Practice residency program have remained in Kansas to practice medicine.

Alan L Kruckemyer, MD, Councilor

COUNCIL DISTRICT 10

District highlights included a visit from KMS President David Ross, MD, Mrs. Carolyn Harrison, President of KMS Alliance, and Jerry Slaughter, Executive Director of KMS, at the D-Barn Restaurant in Newton in November, 1996. Issues of interest to physicians and their spouses were discussed.

Throughout the remainder of the year, regular medical society meetings have been held in Harvey County and in Reno County in conjunction with the hospital quarterly staff meeting.

Recent announcements have included the affiliation of Newton's Axtell Clinic with the Via Christi system in Wichita. Discussion at the local medical society level have included significant concern over the increase in cap for non-economic losses in wrongful death suits.

Kenneth Kimmel, MD, Councilor

COUNCIL DISTRICT 11

During 1996 the activities of the Medical Society of Sedgwick County continued at a hectic pace. The society's membership at the end of 1996 totaled 979, of whom 823 were actively practicing physicians.

Over the past two years, a significant amount of funds and energy have been expended by area physicians and hospitals in a cooperative effort to develop a Medicaid Managed Care Program (CCK). The program being proposed would involve the four Wichita hospitals, area physicians, as well as hospitals and physicians in Bourbon, Finney, and Montgomery counties. Within the next two months a final decision should be made as

COUNCIL DISTRICT REPORTS

Continued from page 67

to whether or not a valuable risk sharing arrangement can be negotiated.

In accordance with state statutes and recently revised state Board of Emergency Medical Service's rules and regulations, the society has updated the medical protocols utilized by all of the Type I and Type II emergency medical services operating in Sedgwick County. A list of equipment (in addition to that required by the state) which must be carried by all local EMS units has also been finalized and distributed. The society's EMS Trauma Subcommittee evaluated the transport runs made by all area EMS services operating in Sedgwick County for the period January through June of 1996. This review represented a universe of approximately 17,000 transports. The survey findings and recommendations were submitted to each involved service. Overall, the quality of services provided was excellent as was compliance with the established protocols.

In cooperation with the Sedgwick County medical examiner's office, a preregistration and notification process was established in regard to the handling of expected deaths of regularly attended terminally ill patients to occur in the home. This process was initiated in order to eliminate the investigation of these types of deaths by the applicable law enforcement agency as well as emergency responses by the fire department and the ambulance service.

The Pharmacy Hotline which is carried out on a cooperative basis between the society and the area pharmacists continues to operate in a successful manner. During the year, 84 potential abuses were handled. This number is down from the 114 reported cases handled in 1995.

In an effort to improve the communication between the 110 medical students receiving training at the UKSM-W, the area hospitals and teaching physicians, two subsidiaries of the society, the Medical Society Medical Review Foundation, and the WPPA, contributed $20,000 to be used in purchasing pagers for the medical students.

Effective January 1, 1997, the WPPA (a managed health care hospital and physician network) operated under the auspices of the Medical Society Medical Review Foundation and the society lost its largest account, the Raytheon Aircraft Corporation and its employee base of approximately 7,000 persons. In the short-term, this loss will impact the WPPA, however, in the long-term this negative will be overcome through the addition of new groups which continues on a regular basis. The WPPA provider network currently serves approximately 130,000 lives throughout the state of Kansas. These lives represent approximately 148 self funded groups and 25 insurance companies. The WPPA has contracts with 2,900 physicians and 95 hospitals.

In cooperation with the area dermatologists, the society participated in a Free Skin Cancer Screening Clinic which was carried out in May 1996. Approximately 835 persons participated in that program.

During the year, the society's Medical Society Medical Review Foundation which performs utilization review activities for the WPPA, received a two-year national accreditation from URAC (now the American Accreditation HealthCare Commission, Inc.).

In an effort to assist those area residents who do not have medical care insurance especially as it relates to eye examinations, eye glasses and medications, the society contributed approximately $22,000 hard and in-kind dollars to the Medical Service Bureau which is housed in the society's executive offices. During the year that program served approximately 6,000 people.

Other day-to-day activities relate to the Medical Careers Loan Fund, the Medical Student Emergency Loan Fund, the Physician Paging System, the Kansas Physician Information Verification Program for area hospitals and managed care programs, legislative issues, SedgPAC, Medical Society Medical Review Foundation, and the Sedgwick County Health Care Cost Containment Roundtable.

James A Loeffler, MD, Councilor

COUNCIL DISTRICT 13

No seismic or cataclysmic events occurred this year. The progressive growth in numbers of salaried physicians continues to grow, in step with the national trends.

Medicaid managed care plans began in Ellis County last year. No divisive or unifying situations have reached critical mass in our district. Perhaps it is "the lull before the storm," as we wait for the next wave of change.

Ward N Newcomb, MD, Councilor

COUNCIL DISTRICT 14

The Barton-Pawnee County Medical Society had its annual sit down dinner meeting in July of 1996. KMS President David Ross, MD, and KMS Alliance President Carolyn Harrison, along with several KMS staff, graciously attended this meeting. The various concerns of the KMS and the AMA were discussed at the meeting, which was presided over by County Society President Richard C Preston, MD. This has been the only official meeting of our society this past year.

Managed care is continuing to make slow progress in our area, as it is throughout the state. A physician-hospital organization is presently being put together, although it has not yet done any business. There was some discussion over who should be the parent organization for this enterprise. Via Christi from Wichita won out over Heartland Health with the reason being given that they have more experience and more covered lives. Hoisington Hospital and a few others in our area have signed with Heartland Health.

Having sufficient manpower to provide all the necessary local care is improving but is still a concern. Physicians with satellite clinics from Hutchinson, Wichita and a few other places and physician extenders have also helped fill the gap. Besides this, there are some new physicians. A David Wahbeh, MD, in pediatrics; Alan P Newman, MD, in orthopedics; Alex B Watson, MD, in OB-GYN; and Jean Pringle, MD, in internal medicine are some of our newer local physicians.

Perry N Schuetz, MD, Councilor

COUNCIL DISTRICT 15

The 15th District is in southwest Kansas including major markets such as Dodge City and Liberal and the Iroquois Medical Society which is composed of smaller towns such as Meade, Minneola, Ashland, Coldwater, Protection, Greensburg, Kinsley, and Spearville.

Activity can be divided between the major market areas and the smaller towns. The medical communities in the major markets seem to be growing in strength and sophistication. The Liberal medical community has grown and includes various specialties including anesthesiology, radiology, general surgery, pediatrics, family practice, industrial medicine, ophthalmology, psychiatry, pathology, and orthopedics.

The Dodge City medical community contains similar specialties as the Liberal area, but also has a cardiothoracic and vascular surgeon, and for a period of time this year did briefly include the speciality of cardiology. The hopes of including coronary artery bypass and other vascular surgical procedures in the repertoire of Western Plains Regional Medical Center were not fulfilled this year.

The Iroquois Medical Society which includes the smaller towns listed above seems to be dying of apathy. The auxiliary limb of the medical society was disbanded over a year ago. The monthly meetings are poorly attended or canceled. The sense of fraternity and collegiality that characterized the Iroquois Medical Society some years ago seems to have vanished. The town of Spearville no longer contains a physician; Ashland has been without a physician for about four years and the facility is maintained by PAs who are supervised by physicians from Buffalo, Oklahoma. The Meade Medical Clinic and hospital are manned by a single physician. Minneola has a pair of physicians, a father and son team. The Bucklin physician practices in association with the Minneola group and hospitalizes many of his patients in Minneola. Coldwater has a single physician as does Protection.

The Greensburg hospital medical board and medical staff which includes three physicians are restructuring after some contention between the three groups. It would appear that the Iroquois Medical Society is in danger of disbanding apparently lacking relevance and importance to its members in today's changing market.

S T Feldmeyer, MD, Councilor

COUNCIL DISTRICT 16

Members of the far northwest district gathered in Colby, October 24, 1996, for a meeting with updates on pertinent information by KMS president, Dr. David Ross. CME program was provided by Dr. Michael Hagley, cardiologist from Hays, who gave us a fascinating update on congestive heart failure. On April 24, 1997 the District 16 meeting was again held in Colby, with an update on legislative affairs by Meg Henson. CME was provided by Dr. Barbara Lukert, from KUMC, discussing osteoporosis. We would like to welcome Mary Sprenkel and the KMS office in Hays to this outpost, in the far Western part of the state.

Michael E Machen, MD, Councilor

COUNCIL DISTRICT 17

The Southwest Kansas Medical Society met on Tuesday, May 14, 1996, at Southwind Country Club in Garden City, Kansas. The speaker for that evening was State Senator Steve Morris. His presentation was entitled, "The 1996 Legislature." The Southwest Kansas Medical Society met again in Garden City, Kansas, on September 24, 1996, for the councilor's meeting. The KMS

COUNCIL DISTRICT REPORTS

Continued from page 69

president, Dr. David Ross, attended and gave a State of the Kansas Medical Society speech which was well received. No other business was transacted at that time. The Southwest Kansas Medical Society met again on November 19, 1996, and the speaker for the evening was Michael Nance, DVM, staff veterinarian at the Lee Richardson Zoo. The following meeting was January 6, 1997, and the speaker was Luke Schwieterman, CTA, of Schwieterman, Incorporated with a presentation on commodities trading. On March 4, 1997, Southwest Kansas Medical Society met and the speaker for that evening was Milton L Pippenger, PhD Superintendent of Schools, Garden City, Kansas, USD 457. His presentation was "The Challenges of Education in Southwest Kansas."

Bruce D Melin, MD, Councilor

COUNCIL DISTRICT 18

The official visit to our District by the presidents of the KMS and the Alliance was made at a dinner meeting in the Learned Club at the University of Kansas Alumni Center building in Lawrence. There was representation from Douglas and Franklin counties to hear their reports.

There is an ongoing effort by Columbia to build its own hospital in Lawrence. Lawrence Memorial Hospital, owed by the city of Lawrence, is financially sound but operates at about a 50 percent occupancy. A few years ago Columbia made an offer to buy 51 percent of the hospital and to operate it. This offer was turned down. Columbia has continued to purchase several primary care practices and sought rezoning of property on the west side of Lawrence in order to build a competing hospital even in the presence of an oversupply of hospital beds. The request was recently turned down by the city and that decision is now being challenged in court.

Phillip A Godwin, MD, Councilor

COUNCIL DISTRICT 19

There have been no earth shattering problems in southeast Kansas. Our meetings have gone well. We continue to see the intrusion of managed care into the southwest Kansas area.

I guess one of the major concerns at this time in this area is the Medicaid lock-in program. Very few of the physicians are opposed to having a Medicaid lock-in program. The way this was instituted, however, makes one wonder if there is not some medical legal liability involved. They have apparently arbitrarily assigned physicians to patients without these physicians ever knowing who these patients are or having ever seen them before. Many of these patients were patients of other physicians. They were locked, not into their own physicians, but other doctors who do not have a clue as to who they were.

As a side effect of this situation, we have received telephone calls at home, on the weekends, and at night from emergency rooms asking for permission to treat a patient who has our name on their medical card as stated above. Many times we did not know who these people were. I understand why a lock-in situation is certainly desirable for Medicaid and the Medicaid enrollee, but I hope that in the near future the situation will be rectified, so that physicians will not be unknowingly assigned patients, in fact, patients unknown to them with whom they have had no professional contact.

Charles L Empson, MD, Councilor

The last word . . .
on improving health care in Kansas

If you were allowed to suggest one thing to improve health care in Kansas, what would it be?

To communicate to everyone that we still call it "The Practice of Medicine:" The continual striving of dedicated individuals, using their training, experience, and best judgement to attain and maintain the best health, physical and mental, for their patients.

John Neuenschwander, MD
Family Practice, Hoxie

My answer is, make the necessary changes so that the Kansas physician is truly the patient advocate.

It has been my feeling for some time that third party payers and executives of managed health care organizations supplant the purpose of the physician in properly arranging for the right health care of his or her patient. That non-physician, who is totally uninvolved, and separate from the immediate, if not the surrounding health care of that patient, has enough financial influence and clout to threaten the proper outcome in health care management. The physician needs to be in control. Hopefully through such organizations such as Heartland and local county and regional medical societies the physicians can regain the important and imperative position of patient health care advocate. Only the doctor with his appropriate, scientific and socioeconomic training in medicine can make the right decisions. His or her compassion in bringing to the patient the most modern, effective cure or control of the disease in a cost-effective manner can be the ultimate solution to the best health care in the state of Kansas or anywhere. KMS

William H Campbell, MD
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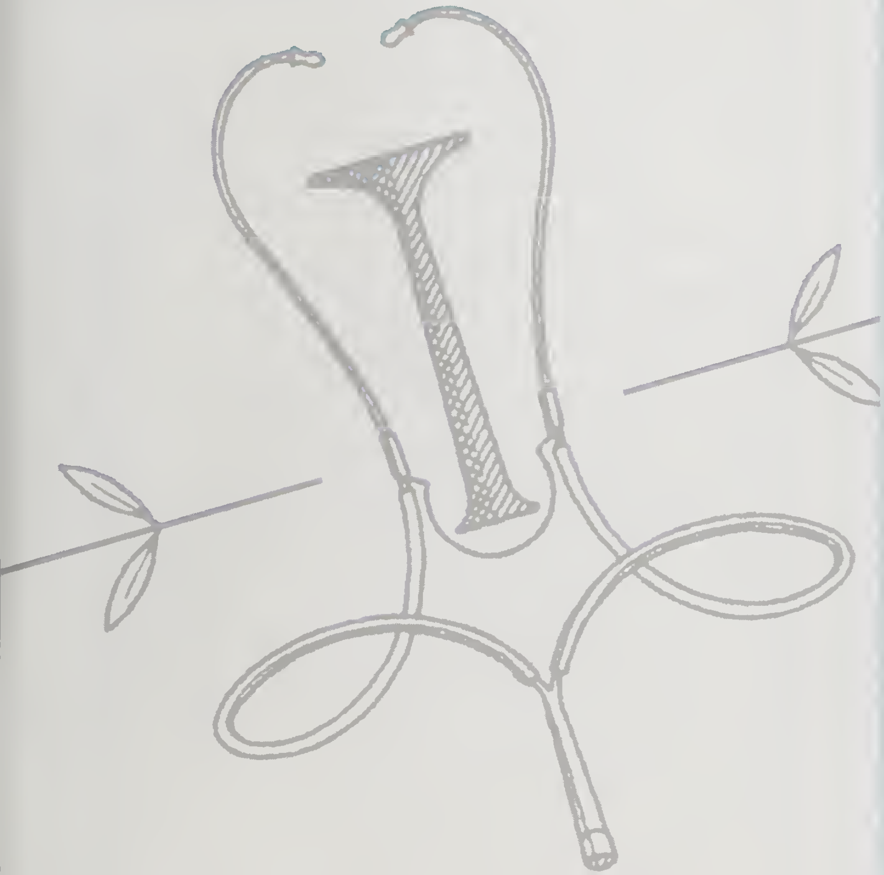
Volume 98, Number 3

6
Coronary artery ectasia

10
A multi-state outbreak of Salmonella serotypes Infantis and Anatum-Kansas and Missouri, 1997

14
Splenosis: a report of ovarian stromal involvement

18
Pulmonary ossification in association with congenital protein C deficiency



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SCIENTIFIC ARTICLES

Coronary artery ectasia 6

A multi-state outbreak of Salmonella serotypes Infantis and Anatum-Kansas and Missouri, 1997 10

Splenosis: a report of ovarian stromal involvement 14

Pulmonary ossification in association with congenital protein C deficiency. 18

DEPARTMENTS

Editorial Comment

De-frauded? 3

Guest Editorial

The physician in changing times 4

Your Older Patient

A clinical approach to proper nutrition in the elderly. 20

Book Review

A review of *Eisenhower's Heart Attack*. 23

Horse and Buggy Doctor

The dissecting room 24

The Rural Voice

Bernadine's funeral. 25

Preventive Medicine

Kansas primary care physicians and preventive medicine guidelines 27

News from KDHE

Mercury spills: an under-recognized hazard. 30

Lest We Forget

Secretary's report, 1895. 32

In Memoriam . . . A moment of silence 34

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De-frauded?

Warren Meyer, MD

THE KENNEDY-Kassebaum Health Care Bill passed the Congress in July of 1996. It contains many interesting provisions that few may realize are in the bill. In addition to providing for increased portability of an individual's health insurance, limitations on pre-existing conditions, deleting genetic information as a pre-existing condition unless already part of an existing diagnosis, setting up medical savings accounts on a very limited pilot project, providing for malpractice protection of charitable clinics, and welfare reform, it also contained the Taxpayer Bill of Rights to prevent fraud and abuse by the health care system.

This new provision can be a dangerous trap for trustees, physicians, and managers associated with tax-exempt hospitals and health care systems. Basically the government can impose excise taxes on "insiders" who benefit from "excess benefits transactions" (up to 25 percent of the excess benefit for the individual and 10 percent of excess benefits up to $10,000 per transaction for the organizations), and can also impose an intermediate sanction or revocation of the organization's exemption. An "excess benefit transaction" is defined in the law as any transaction in which an economic benefit is provided by an exempt organization to a "disqualified person" where the value of the benefit exceeds the value of consideration received for the benefit. A "disqualified person" may be an individual (or a family member) who, at any time during the five-year period ending on the date of the transaction, was in a position to exercise substantial influence over the affairs of the organization; or an organization which has 35 percent or more of its voting interests controlled by anyone of the above. Previous IRS decisions would include physicians in the definition of a disqualified person; however, the Ways and Means Committee says, "maybe." This provision was made retroactive to all transactions occurring on or before September 14, 1995.

Indemnification against this type of event is "iffy" because some states may not permit it and, if they do, the amount of the premium must be reported as compensation. Oh, by the way, if the situation is not corrected, the disqualified person must pay another tax equal to 200 percent of the excess benefit. Don't you just love the way our congressmen and congresswomen have their constituents' best interests at heart?

Congress and the President have once again complained about fraud and abuse within the Medicare and Medicaid systems and gone after the "guilty" with a vengeance. Hospitals in the Kansas City area have already capitulated, paying over $1 million in fines, rather than face the full and unlimited resources of the federal government. Hospitals and large physician groups in the Wichita area have also been "requested" by the Federal and State Attorneys General offices to respond to certain "allegations." Of course, the "crime" is often in the eye of the beholder, but the government can spin the "crime" in any way it wishes and more often than not you lose! An unidentified source close to the investigation (don't you just love that phrase?) says the motto is "Cripple, but don't destroy." Which translates to "let them know who's boss and bring back some cash."

But what's a body to do in the face of all this renewed hostility by big brother? First of all, health systems and physicians should review any mutual contracts they have to be sure they conform to the new definitions (and remember they can be changed by Congress next session), correct them if they fail to meet the criteria, and adopt and enforce a comprehensive compliance plan within the organization. It just so happens that Mr. Kusserow, the former head of HCFA, has a service that will create a plan or update the one you have so that it is in compliance with all federal criteria and guidelines. Excuse me, but do I hear, "I used to be with the federal government, but now I'm here to help you?"

Well I hope I didn't upset your day, but I thought you needed to be aware of this provision of the Kennedy-Kassebaum bill. Don't wait around because it's not going to go away! WEM **KMS**

The physician in changing times

Spence Meighan, MD

Editor's note: We are including another of Spence Meighan's editorials. Titled in full, "The physician in changing times: pathways to a more serene existence," this essay appeared originally in Today's Internist *(January/February 1997) and is reprinted here for your edification and thoughtful enjoyment.*

I TRAVEL EXTENSIVELY ACROSS THIS country and meet with many physicians. It is impossible not to notice how unhappy many of us have become. We are anxious and fearful of the future; concerned about the progressive loss of control over our patients' care; and angry at the changes in the professional, social, and economic climates in which we work. There is a pervasive sense of dispiritedness and frequent, wishful talk about early retirement from practice.

These are unpleasant feelings that can have serious consequences. When individuals are not confident about the future of their profession–or of their own careers–they cannot be relied upon to make wise choices. Negative emotions get in the way of rational thinking. Important decisions about our careers are influenced by extraneous, emotional factors. It is important to find an appropriate balance between our personal expectations and our professional responsibilities, so that we can put our problems and concerns into proper perspective.

ON THE RIGHT PATH

Then how should we set out on a path to a more serene state of mind? It is normal to experience negative emotions when events don't go our way; it is unhealthy to maintain negative emotions in the face of continuously unappealing changes. We cannot achieve peace of mind if we continue to "rage against the dying of the light."

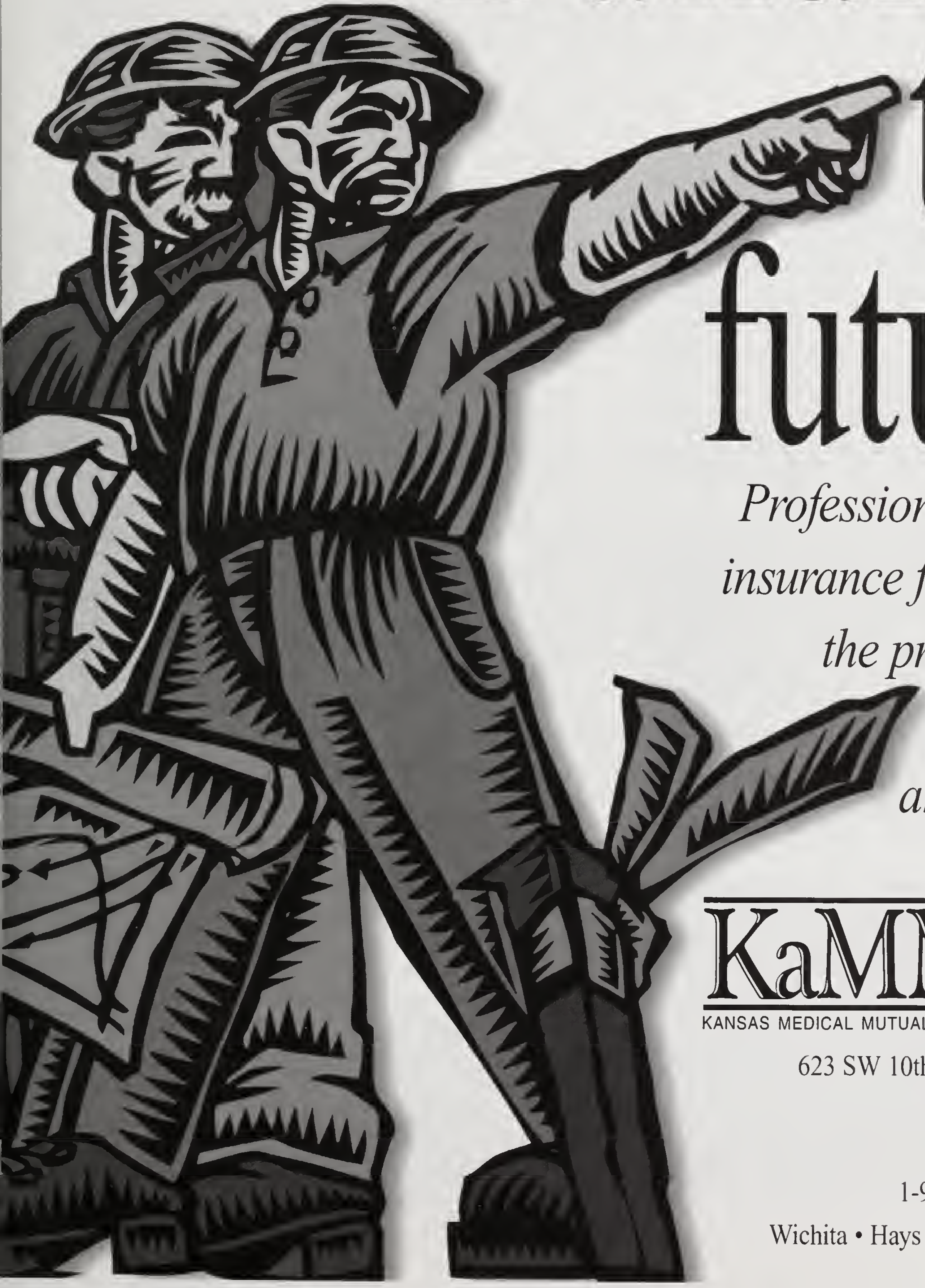
To escape from distress, a conventional strategy is to ask, "why am I unhappy?" But the answers are obvious: the whole environment of our professional work is undergoing a rapid change in a direction which few of us would choose. We know why we are unhappy! And to make matters worse, we lack the capacity to prevent the changes or even to alter their course. Therefore, a better question is: "what can I do personally to make my life more satisfactory?"

We physicians need to talk amongst ourselves; we must find ways to support each other. Many of us are not good at such activities. Maybe recognizing that we need each other is an important first step. Developing physician discussion groups is one alternative, yet many of us still regard colleagues who engage in such activities as the "wimps" of the profession. The image of ourselves as "iron men and women" gets in the way of our search for emotional balance.

TEN STEPS

In my own continuing search, I have found 10 steps that have been of great value (not that I have reached a state of equilibrium, but I am getting closer). Perhaps these steps could help us to reach more comfortable levels of emotional balance and to become better prepared to make key career decisions.

1. I will strive to provide care of high quality and to maintain compassion for my patients.
2. At all times I will be an advocate for my patients.
3. I will preserve time away from patients so that my physical, emotional, and spiritual growth (and the growth of those around me) will be nurtured.
4. I accept that, no matter what "The Health Care System" may bring, I retain personal power and always have options.
5. To allow my freedoms and choices to be preserved or expanded, I will avoid escalation of my financial expectations.
6. I will be grateful for the intrinsic value of my work and my ability to make a difference in the lives of others.
7. I understand that without friendships, I am alone and that my life will be unfulfilled.
8. I will make an assessment of the current state of my life from moral, ethical, and behavioral standpoints and will try to incorporate my findings into my daily living.
9. Through meditation, reflection, or prayer, I will seek to establish and maintain my personal humility.
10. I recognize that acceptance of "a power greater than myself" is necessary for my emotional well-being and peace of mind. KMS



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Coronary artery ectasia

John J Hart, MD and Charlie G Joslin, MD

THE FIRST REPORTS OF CORONARY ARTERY DILATATION WERE FROM AUTOPSIES BY MORGAGNI in 1761, then Gougon in 1812. Reports since then have described the pathologic vessel widening as an aneurysm or ectasia. Coronary artery ectasia is an irregular dilatation of one or more coronary arteries, involving all or part of the vessels course. By definition, the dilatation must be more than 1.5 times the diameter of adjacent normal coronary artery segments. The dilatation may reach exceptional proportions with diameters up to seven times normal occurring. Coronary artery ectasia is distinguished from large and/or dominant coronary arteries by the criteria that the vessel wall is dilated and irregular.

CLASSIFICATION

Coronary artery ectasia is classified from Type I (most involved) through Type IV (least involved) according to the number of vessels dilated, and whether that dilatation is diffuse or segmental (Table 1).

CASE REPORT

A 56-year-old African-American female with a history of anxiety and palpitations was seen urgently in the office with complaints of chest pain and palpitations. The chest pain localized to the left precordium, with radiation into the left neck and down the left arm. The pain was described as pressure like, accompanied with dyspnea, and persisted at rest. There was no nausea, vomiting, or other significant symptomatology. An EKG revealed only nonspecific Q-wave changes.

TABLE I: CLASSIFICATION OF CORONARY ARTERY ECTASIA

Type I	diffuse ectasia of two or more vessels
Type II	diffuse ectasia of one vessel and localized ectasia of another
Type III	diffuse ectasia of only one vessel
Type IV	localized or segmental ectasia of one vessel

The patient's past medical history was significant for hiatal hernia and cholecystectomy. Nadolol (Corgard) 40 mg po daily was prescribed for heart palpitations. Significant family history consisted of a son thought to have a connective tissue disorder. He had undergone four aortic valve replacement surgeries because the sutures would not hold.

The patient was diagnosed with unstable angina and admitted to the coronary care unit. Admission complete blood count, serum electrolytes, CPK, and LDH were normal. The cholesterol was elevated at 239.

Cardiac catheterization revealed dilated and ectatic proximal right and proximal left anterior descending coronary arteries (Figures 1, 2 and 3) with an ejection fraction of 63 percent. No areas of significant coronary arterial narrowing were seen. Reversible spasm of an ectatic portion of the left anterior descending artery was noted, and the patient's anginal symptoms were attributed to this spasm.

The patient's medication was changed to metoprolol (Lopressor) to help prevent coronary artery spasm and she was dismissed on coumadin. No association between the patient's coronary artery ectasia and her son's nonspecific connective tissue disorder was made.

ETIOLOGY

In the United States, Kawasaki's disease is the most common cause of coronary artery ectasia in children. Congenital coronary artery ectasia also occurs and is thought to be due to primitive myocardial sinusoid persistence. This may cause myocardial infarction in childhood and young adults.

In adults, the etiology of coronary artery ectasia is reported to be 20-30 percent congenital, 50 percent atherosclerotic, and 10-20 percent inflammatory or other in origin (Table 2). In adults, it is difficult to distinguish an atherosclerotic from a congenital etiology, especially in patients with isolated ectasia. It is not known why coronary atherosclerosis causes both obstruction and ectatic coronary artery changes.

EPIDEMIOLOGY

The prevalence of coronary artery ectasia in adults is 1.4 percent. Males are affected more than females by a ratio of 1.5-4.1 to 1, which is explained in large part by the association with atherosclerosis. The incidence of isolated coronary artery ectasia without associated atherosclerotic stenosis is small, with studies reporting rates from 5 of 23 to 4 of 70.

PATHOPHYSIOLOGY

Coronary vessels with ectasia show pathologic intimal and subintimal fibrosis and thickening, subintimal deposition of lipoid material, and destruction of the muscular media portion with degeneration of elastics.

Despite their ectatic nature, these arteries are prone to spasm. They also are prone to dissection and thrombosis due to non-Samovar flow and reduced flow rates. These mechanisms help explain the angina and infarcts that occur. Effort angina also may be explained by the loss of autoregulation that occurs in the coronary vascular bed.

The distribution of coronary artery

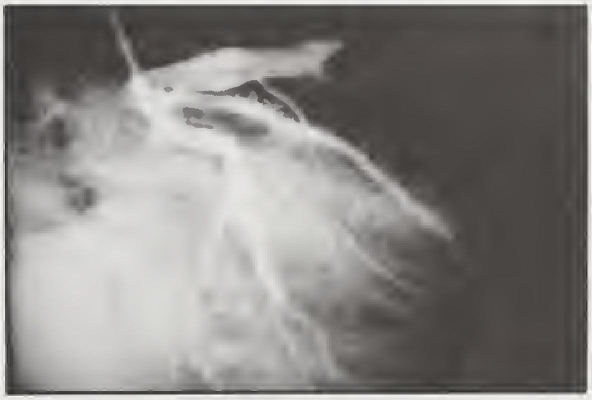

Figure 1. Coronary arteries

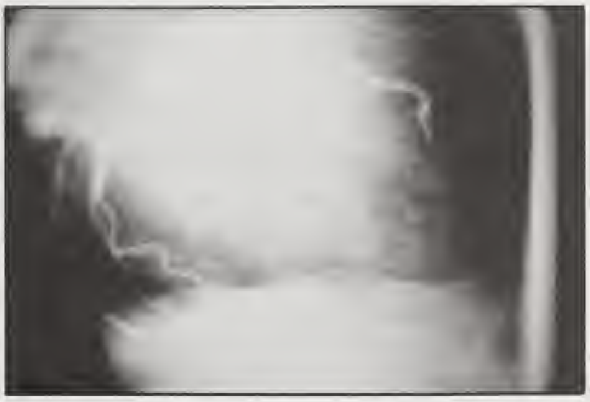

Figure 2. Coronary arteries

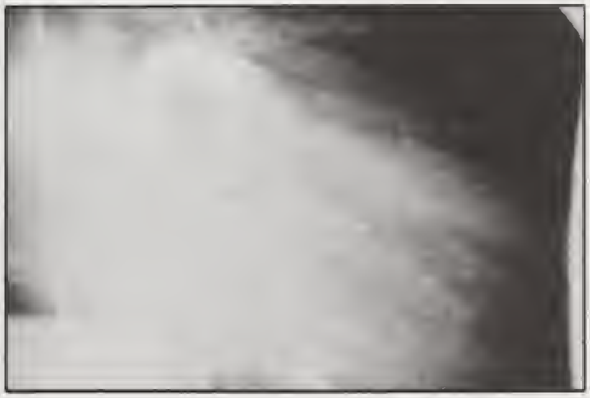

Figure 3. Coronary arteries

CORONARY ARTERY ECTASIA

Continued from page 7

TABLE II: CAUSES OF CORONARY ARTERY ECTASIA OTHER THAN ARTERIOSCLEROSIS

- Ehlers-Danlos syndrome
- Infantile polyarteritis
- Marfan's syndrome
- Trauma
- Coronary angioplasty
- Scleroderma
- Syphilis
- Mycotic embolus
- Mucocutaneous lymph node disease (Kawaski's disease)
- Takayasu's arteritis
- Congenital lesions
- Cerebrotendinous xanthomatosis
- Neurofibromatosis
- Coronary atheroclerosis
- Coronary artery dissection
- Quarten malaria
- Cocaine abuse[5]*
- Paraquat poisoning[6]*
- Polycystic kidney disease[7]*
- Osler-Weber-Rendu disease[8]*
- Chronic Epstein-Barr virus infection[9]*
- Polyarteritis nodosa
- Systemic Lupus erythematosus

*Possible causes

ectasia follows a pattern of equal right and left system involvement, but diffuse ectasia occurs more often in the right coronary artery. Multi vessel involvement is the rule (Table 3).

CLINICAL FEATURES

Coronary artery ectasia is often asymptomatic. Prior to coronary artery angiography, coronary artery aneurysms were detected at postmortem examination with up to half of these patients having died from rupture of the aneurysm.

Symptomatic patients usually present with angina, myocardial infarction, or rarely, congestive heart failure. As discussed, ischemia may result from thrombus formation or spasm.

Coronary artery ectasia has several clinical associations (Table 4). Ectatic coronary artery disease, however, cannot be distinguished from obstructive coronary artery disease by the clinical presentation.

Most studies find no increase in morbidity or mortality in patients with both coronary artery stenosis and ectasia versus patients with atherosclerotic coronary artery stenosis alone. Furthermore, the presence of coronary artery ectasia does not effect the results of coronary artery surgery nor its follow-up.

DIAGNOSIS

The diagnosis of coronary artery ectasia is made with coronary artery angiography. Errors in diagnosing coronary artery stenosis have been reported in patients with ectasia, as normal segments between ectatic artery areas many appear stenosed.

TREATMENT

Appropriate treatment for obstructive coronary disease should predominate when the obstructive disease predominates over the ectatic disease. When coronary ectasia predominates, chronic warfarin therapy is indicated due to the predilection for coronary mural thrombus formation, although aspirin therapy in patients with asymptomatic coronary artery ectasia does well.

It has been suggested that when CABG procedures are performed in patients with significant ectasia, all vessels should be revascularized.

SUMMARY

Coronary artery ectasia is an uncommon expression of coronary artery atherosclerosis and other diseases. It occurs in about 1.4 percent of the adult population. It is not distinguishable from obstructive coronary artery disease in severity of angina, clinical presentation, electrocardiograms, mortality, or outcome of coronary artery surgery. Although there is debate, treatment is indicated in the form of chronic warfarin anticoagulation to prevent coronary thrombus formation and its sequelae. Aspirin therapy may suffice in asymptomatic individuals.

TABLE III: LOCATION OF CORONARY ARTERY ECTASIA

Right artery	50 percent of cases
Left main artery	10 percent of cases
Left anterior descending artery	30-40 percent of cases
Circumflex artery	30-40 percent of cases

TABLE IV: FACTORS ASSOCIATED WITH CORONARY ARTERY ECTASIA

- Male gender
- Hyperlypoproteinemia (especially type IV)
- Family history of heart disease
- Hypertension
- Abdominal aortic aneurysm
- Mitral valve prolapse[15]

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REFERENCES

For a complete list of references, please contact Linda Ruiz at 785.235.2383 or 800.332.0156.

A multi-state outbreak of Salmonella serotypes Infantis and Anatum-Kansas and Missouri, 1997

Gianfranco Pezzino, MD, MPH; Corinne Miller, DDS, PhD;
Robert Flahart, PhD; Steven R Potsic, MD, MPH

SALMONELLOSIS OCCURS EXTENSIVELY IN the United States with contaminated food the predominant mode of transmission. Only a small proportion of cases are diagnosed clinically with the majority occurring sporadically. This paper describes a recent large outbreak of salmonellosis in the eastern one-third of Kansas and the importance of the use of epidemiologic and laboratory techniques to determine the source and thus prevent additional cases from occurring.

This outbreak also reinforces the need for timely reporting of salmonella and the importance of culturing prior to antibiotic treatment, and shows the significant work of public health in performing a complex, time-intensive investigation to prevent what would have most probably been a substantial number of additional cases. It highlights the difficult decisions physicians have in treating individual patients, but also the importance of limiting antibiotic use to only those cases with a clear indication. This is especially important given the alarming emergence of many multi-drug resistant organisms in the US.

OUTBREAK SURVEILLANCE

On April 9, 1997, the Kansas City, Missouri Department of Health notified the Kansas Department of Health and Environment (KDHE) of an increased number of Salmonella serotype Infantis cultured from the stool of residents of Northeast Kansas. Similar cases had also been noted among Missouri residents, primarily in the Kansas City area. Investigations by county health departments where cases resided revealed no common source of infection. However, DNA fingerprinting of the S. Infantis isolates conducted through the use of pulsed-field gel electrophoresis (PFGE), performed at the Minnesota Department of Public Health Laboratory, revealed that the Kansas and Missouri isolates shared an identical PFGE pattern, suggesting a common exposure. Additional case finding efforts included letters, faxes, and e-mail to local public health departments, physicians, and laboratories in the affected counties.

Recommendations for identifying cases included performing a stool culture on all persons with moderate to severe gastrointestinal symptoms compatible with salmonellosis, and forwarding all Salmonella isolates to the Kansas Health and Environmental Laboratory (KHEL) for serotyping and PFGE.

At the same time, another small cluster of cases of Salmonella serotype Anatum were reported among Kansas and Missouri residents. These patients had the same geographic and demographic distributions as patients with S. Infantis. Since an average of only five cases of S. Infantis and five of S. Anatum are reported annually in Kansas, the possibility of an outbreak related to coinfection with two Salmonella serotypes was considered.

METHODS

Case-control study 1

To identify possible sources of infection, a case-control study on the first 43 S. Infantis case patients was conducted by KDHE. Telephone interviews were conducted with case-patients and age-matched friend and community controls. Possible exposures were examined and included an extensive list of food items, attendance at common events, and food purchases from common grocery stores or restaurants.

Hypothesis-generating and case-control study 2

On May 14, KDHE invited staff of the Foodborne and Diarrheal Diseases Branch, Centers for Disease Control and Prevention (CDC) to assist in the investigation. To identify common exposures, CDC staff conducted extensive hypothesis-generating interviews with eight case-patients. Based on these interviews and data collected in the KDHE survey, a second case-control study was conducted, focused on fewer food items which appeared to be more likely involved in the outbreak.

LABORATORY AND TRACEBACK ACTIVITIES

To look for common distributors and suppliers, tracebacks of produce were also conducted and allowed the identification of a sprout grower common among some case-patients (sprouter A). Food and environmental samples were taken from sprouter A for testing.

RESULTS

By June 10, 81 cases of S. Infantis or Anatum infections had been identified, 79 (98 percent) of which were primary cases, while two (2 percent) appeared to be secondary cases. Dates of onset of illness ranged from February 19 through May 26. The median age was 30 years (range, 2-78 years), and 52 (65 percent) of the patients were female. Sixty-three (78 percent) of the case-patients were residents of Kansas, 16 (20 percent) were from Missouri, one (1 percent) was from Oklahoma, and one (1 percent) was a Minnesota resident who reported eating in Kansas during a time consistent with the incubation period. Symptoms included diarrhea (98 percent), cramps (88 percent), fever (85 percent), nausea (63 percent), bloody stools (51 percent), and vomiting (43 percent). Seventeen (27 percent) of 64 case-patients were hospitalized; none died. Forty-nine patients reported being treated with antibiotics for their illness, mainly Ciprofloxacin.

Case-control study 1

The results were inconclusive with many food items commonly consumed by case-patients and controls; there was no identifiable common source.

Hypothesis-generating study and case-control study 2

Hypothesis-generating interviews were conducted with eight case-patients. Of these, four (50 percent) mentioned eating alfalfa sprouts in the three days before illness, and two (25 percent) mentioned eating a sandwich which was found to contain alfalfa sprouts after consultation with the providing restaurant. Tracebacks of sprouts consumed by the eight case-patients resulted in the identification of one sprout grower common to all. All eight case-patients had also reported eating lettuce, but different varieties of lettuce had been consumed and no common lettuce distributor or producer was identified.

In the second case-control study, iceberg lettuce consumed outside the home was associated with illness (matched OR=11.50, CI=1.1374.6). Consumption of sprouts (bean, alfalfa, or other sprouts) in the five days before onset was associated with illness (matched OR=3.50), but this difference was not statistically significant.

TRACEBACK ACTIVITIES AND LABORATORY INVESTIGATION OF SPROUT GROWERS

Three brands of sprouts (brand A, B, C) were commonly sold in northeastern Kansas. Of 24 case-patients for whom

SALMONELLA SEROTYPES

Continued from page 11

accurate tracebacks to a producer were feasible, 23 (96 percent) had an opportunity to eat brand A sprouts. Investigation of sprouter A revealed that seeds from the different kinds of sprouts sold during the outbreak period were all coming from one seed distributor. The delivery of three new lots of seeds to sprouter A from one local Kansas seed supplier was closely correlated in time to the outbreak. No other sprouter had purchased seeds from this company.

Based on the epidemiologic and traceback studies, environmental and sprout samples were taken from sprouter A and grew S. Infantis and Anatum. Following these laboratory findings, on June 2 all brand A sprouts were embargoed from further distribution or sale, and a press release was issued to alert consumers not to consume any brand A sprouts. Within a few weeks from this action, no more cases of S. Infantis or Anatum were reported. The PFGE pattern of the cultures isolated from the sprouts was the same as the pattern of the cultures from the patients.

DISCUSSION

This outbreak was associated with consumption of sprouts contaminated with two Salmonella serotypes: S. Infantis and S. Anatum. The contamination could have occurred at the production plant, or it could be the result of use of contaminated seeds (an event already described in other outbreaks of salmonellosis). Cultures of seeds have not been completed yet, but preliminary results indicate that at least one of the samples collected tested positive for Salmonella Anatum.

In the two case-control studies, sprout consumption was not significantly associated with illness; however in both studies more case-patients than controls reported consuming sprouts. This finding is similar to the one of other investigations of sprout-associated outbreaks, where it has proved difficult to find statistically significant associations between sprout consumption and illness. Sprouts are often part of salads or sandwiches and individuals may consume them without remembering their presence. Therefore, interviews and food histories are often unable to reveal the true consumption of sprouts among sick individuals. This difficulty highlights the importance of laboratory techniques such as serotyping and PFGE in helping determine which cases are related to a common exposure.

Currently, salmonellosis is reportable by physicians but not laboratories in Kansas. In addition, serotyping of isolates is not mandatory in Kansas, and only 35 percent of all Salmonella cases reported every year to KDHE are sent to the KHEL for serotyping. Without serotyping and PFGE of the isolates, recognition and investigation of this outbreak would have been delayed, and the link between the contaminated sprouts and illness in humans could have been missed.

Uncomplicated salmonellosis is usually a self-limiting disease, and antibiotic treatment is contraindicated, since it may lead to prolonged shedding and emergence of drug-resistant and more severe infection. Among the patients in this outbreak, 49 were treated with antibiotics. This emphasizes the need to limit prescription of an antimicrobial to cases with a clear indication. KMS

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Splenosis: a report of ovarian stromal involvement

Ossama Tawfik, MD, PhD; Fabiola Balarezo, MD; John C Weed, Jr, MD

SPLENOSIS IS A RARE CONDITION THAT IS DEFINED AS AUTOTRANSPLANTATION OF SPLENIC TISSUE following rupture or injury. [1-3] The incidence of splenosis is not accurately known in the literature. Because it is rarely symptomatic, splenosis is most often discovered as an incidental finding during surgery or autopsy. There are very few reported cases of splenosis in the gynecological literature, and ovarian splenosis is even more rare, only one case reported to date. We report a rare case of ovarian splenosis in a 28-year-old female secondary to splenic rupture.

CASE REPORT

KP is a 28-year-old black female, gravida 2, para 2, who was admitted to the hospital for the chief complaint of recurrent abdominal and pelvic pain. Her past medical history was significant for splenosis which was attributed to splenic rupture following a motor vehicle accident in 1983, that necessitated splenectomy. Her splenosis was originally diagnosed in September 1993, when she had been evaluated for pelvic pain to rule out endometriosis. A diagnostic laparoscopy at that time showed multiple tissue fragments consistent with splenic tissue throughout her abdomen and pelvis. Two months later, she underwent a second open laparotomy with lysis of adhesions and removal of a portion of right tube and ovary. Her past medical and gynecological histories were significant for tonsillectomy and adenoidectomy as a child, and tubal ligation. There was no history of sexually transmitted disease, dysmenorrhea, menorrhagia or abnormal Pap smears. Her past obstetric history was significant for term spontaneous vaginal deliveries on two occasions.

On physical examination, the patient was a well-nourished, thin, black female in apparent distress secondary to her acute abdominal pain. Her lungs were clear to auscultation. The abdomen was tender to palpation in all quadrants, primarily in the right lower quadrant. There was no rebound pain, and the bowel sounds were normoactive. There was no organomegaly, masses or peritoneal signs.

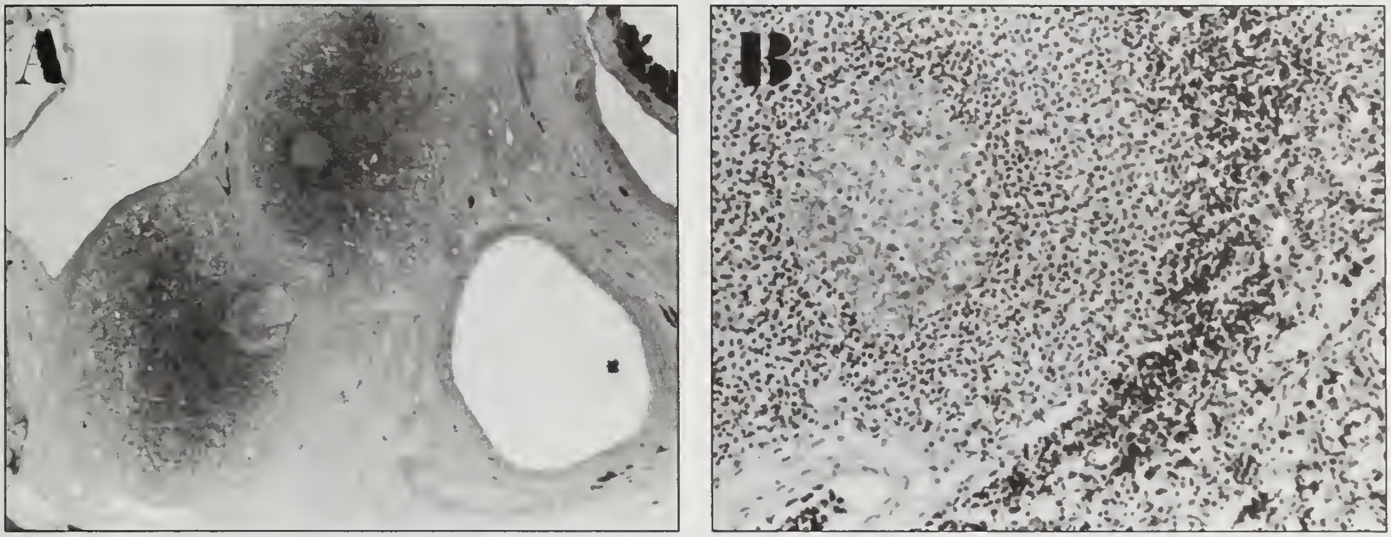

Figure 1: A (left): Section of the right ovary to show two splenic nodules in the ovarian parenchyma (Hematozylin and eosin stain: magnification x 20). B (right): Typical splenic implant with a well developed lymphoid follicle showing a germinal center: an arteriole is seen at the left lower corner (Hematoxylin and eosin stain; magnification x 200).

On surgical exploration, there were extensive adhesions of both tubes and ovaries to the uterus, cul-de-sac area, and pelvic sidewalls. The right ovary was noted to have a dark pigmented lesion. Multiple splenic implants varying from one to three cm in diameter were noted throughout her small and large bowel and her omentum. A total abdominal hysterectomy with bilateral salpingo-oophorectomy, appendectomy, omentectomy and removal of splenic tissue from the abdominal viscera were performed. The patient's postoperative course was complicated by prolonged ileus which responded to nasogastric tube placement and enemas. On postoperative day 12, she tolerated regular diet and was discharged from the hospital.

Pathologic examination revealed adhesions of the right adnexa. The right ovary parenchyma contained several dark purple areas, measuring up to 0.3 cm in greatest dimension. Multiple ovoid well encapsulated, dark purple nodules, varying from 0.4 to 1.5 cm in greatest diameter, from the serosal surface of the small and large bowels and omentum were also received. Microscopic examination showed normal splenic tissue in the ovarian parenchyma and bowel and the omental nodules (Figure 1). The hysterectomy specimen was significant for several leiomyomas varying between 0.5 to 0.7 cm in diameter. The left ovary contained multiple follicular cyst, otherwise it was unremarkable.

DISCUSSION

Splenosis is a form of autotransplantation of splenic tissue in the abdominal cavity following rupture or injury. [1] Although splenic auto-transplantation was first described by Von Kuttner in 1910, and Faltin in 1911, the term splenosis was first coined by Buchbinder and Lupkoff in 1939. [2-3] Fewer than 100 cases of splenosis have been reported in the literature. The true incidence of splenosis may be much more common, as it is rarely symptomatic and its discovery is usually incidental during laparotomy for another condition requiring surgery or at autopsy. Evidence in the literature suggest that the phenomenon of splenosis could be regulated by humoral factor(s). Ectopic splenic tissue undergoes growth after splenectomy in a fashion similar to the compensatory hyperplasia that occurs in other organs. [4]

Splenosis is uncommonly encountered by the gynecologist. The initial encounter of splenic implants intraoperatively can easily be mistaken with a variety of gynecologic and non-gynecologic conditions; including endometriosis, chronic parametritis, uterine leiomyoma, hemangioma and metastatic carcinoma. [5-9] Splenosis can also be confused with accessory spleens. Splenic implants are usually sessile or pedunculated and do not induce the fibrous reaction seen with endometriosis and metastatic carcinoma. Hemangiomas are usually easily compressible and refill after pressure. Accessory splenic nodules are less in number and are usually found during childhood, without the classic

SPLENOSIS

Continued from page 15

history of splenic rupture or trauma.

Modern imaging techniques have resulted in an increase in the estimates of the frequency of splenosis after splenic rupture or injury. Radioisotope studies show that the incidence of splenosis could be as high as 48 to 66 percent in patients who had undergone splenectomy for splenic trauma, regardless of whether they were symptomatic or not. [10-11]

Although rare, splenosis should be considered in gynecological patients presenting with ovarian masses whenever there is a distant history of splenic trauma or rupture. This patient's presentation with pelvic pain appears to be related to involvement of recurrent splenosis in pelvic organs. The diffuse nature of intraperitoneal splenosis leads one to assume symptoms were due to encroachment and scarring from prior resection of the tube and ovary with subsequent scar in the site of the continuing ovulation of the ovary. To our knowledge there is no other adjuvant therapy indicated.

In conclusion, we presented a rare case of ovarian splenosis in a 28-year-old female, with the current case representing the second documented case in the literature. Splenosis should be suspected in patients with history of splenectomy for splenic trauma. KMS

Dr. Tawfik and Dr. Balarezo are both pathologists at the University of Kansas School of Medicine–Kansas City. Dr. Weed is an obstetrician and gynecologist at the University of Kansas School of Medicine–Kansas City.

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Pulmonary ossification in association with congenital protein C deficiency

Scott Truhlar and Alan Roth, MD

DIFFUSE PULMONARY OSSIFICATION IS A rare pathological condition typified by widespread heterotropic bone formation within the lungs.[1] Two forms of diffuse pulmonary ossification are described: a dendriform ("branching") and a nodular circumscribed form. Dendriform pulmonary ossification is usually associated with areas of fibrosis and the spicules of bone usually contain marrow. In contrast, the nodular form consists of mature lamellar bone devoid of marrow elements and found primarily free in the alveolar space.[2]

Diffuse pulmonary ossification has been found associated with various conditions such as tuberculosis, metastatic melanoma, mitral valve stenosis, left ventricular failure, shock lung, histoplasmosis, pulmonary amyloidosis, interstitial fibrosis, chronic bisulfan therapy, metastatic breast cancer, and metastatic osteogenic sarcoma.[1-4] In this report we describe an occurrence of diffuse pulmonary ossification in association with hereditary protein C deficiency, suggesting that these two conditions might be pathogenetically related to one another. We hypothesize that pulmonary ossification developed in the context of pulmonary ischemia secondary to the coagulation defect which caused repeated episodes of pulmonary thrombosis.

CASE REPORT

A 30-year-old black female presented with a two-week history of increasing nausea and vomiting and a two-day history of cough, productive of yellowish and eventually bloody sputum. She was afebrile but complained of chills and some parasternal and substernal chest pain with cough and deep breathing. Her past history was significant for pneumonia three years ago which required hospitalization and a history of seizure disorder stabilized with Dilantin and phenobarbital over the past eight years. She was not aware of having any blood clot-related problems and did not smoke or use birth control pills. Family history disclosed that the patient's mother had been on long-term anticoagulation therapy for a "clotting disorder."

Hospital course was marked by deteriorating lung functions and continuing hemoptysis. Hematological consultation suggested that the patient was in a hypercoagulable state and blood samples were sent

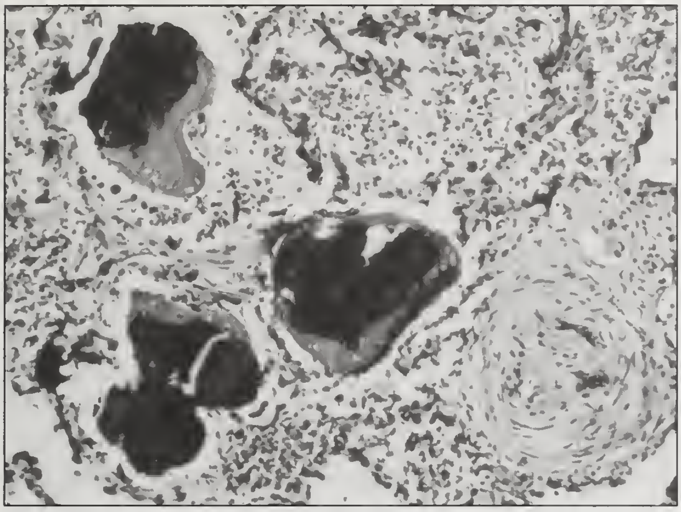

Figure 1

to a reference laboratory for additional testing. Her condition worsened, and she became hypotensive, bradycardic, and asystolic. Death occurred on day six post-admission, thought to be caused by pulmonary embolism and right heart failure. Hematological tests returned on the day of death confirmed the existence of a hypercoagulable state due to a genetic deficiency of protein C. The levels of protein S were at the lower limits of normal.

Autopsy confirmed that death was due to thromboemboli, the largest of which totally obstructed the left pulmonary artery. Microscopy revealed numerous pulmonary thrombi in various stages of organization. Additionally, areas of true woven bone were found intraalveolarly in areas of the lung noted as firm and gritty on gross examination. (Figure 1) Foci of ossification were widespread and could be demonstrated by X-ray examination which was performed on pieces of lung tissue removed at the autopsy. Two small foci of histoplasmosis were found in the lungs but these were not related to foci of ossification.

DISCUSSION

Intrapulmonary ossification found in this patient cannot be explained unequivocally, but we believe that it is most likely due to ischemia of lung parenchyma caused by intrapulmonary thrombosis. These thrombi were caused by a hereditary protein C deficiency, a well defined hypercoagulable state. Protein C is a potent anticoagulant which acts by inactivating factors VIIIa and Va. Protein S enhances the binding of activated protein C to phospholipid-containing membranes and accelerates the inactivation of factors VIIIa and Va. Lack of protein C, as found in the present patient, causes thromboembolism.

There is considerable evidence that ischemia, venous stasis or general circulatory impairment favors ectopic bone formation in the lungs.[1,2] Popelka and Kleinerman hypothesized that the exudation of fluid into intra-alveolar spaces leads to fibrin deposition and exposure of the interstitial fibroblast to an acidic milieu. These conditions promote collagen synthesis and deposition, and the transition of the collagen to osseous matrix which follows the transformation of fibroblasts to osteoblasts.[1] Indeed, chronic ischemia or infection, such as the pneumonia that the patient had three years prior to demise, could have created a prolonged anoxic and acidemic intralveolar environment, promoting osteoblastic metaplasia of fibroblasts which in turn probably predisposed our patient to interstitial fibrosis and ossification.

SUMMARY

A case of diffuse pulmonary ossification in association with congenital protein C deficiency is presented. We propose that multiple pulmonary thrombi secondary to a long-term hypercoagulable state produced pulmonary ischemia that predisposed to intralveolar ossification. KMS

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A clinical approach to proper nutrition in the elderly

Sally Rigler, MD

COMPREHENSIVE care of the aging patient requires attention to nutritional status and its interactions with disease states, quality of life, and functional ability. This article will suggest a primary care approach to dietary considerations among healthy elderly and those at risk for nutritional deficiencies, in whom obvious malnutrition is not present. Pertinent physiologic changes of aging will be reviewed, methods for focused nutritional assessment will be suggested, and general recommendations for patient advice will be given.

PHYSIOLOGIC CHANGES OF AGING

Physiologic parameters vary widely among normal aging individuals, but some generalizations can be made. A decrease in total energy requirements with aging is well known and may be worsened by inactivity. Lean body muscle mass declines, a phenomenon termed age-associated sarcopenia; the relative proportion of fat mass increases. Immobility contributes further to the risk of negative nitrogen balance. Protein deficiency may adversely affect immune function, wound healing and other processes. Meats and other protein-containing foods tend to be expensive and may be more difficult to chew, resulting in limited intake by some elders. Fat calories are an important dense source of energy in those with restricted appetite, in whom carbohydrate and protein intake may be inadequate to meet caloric demands. Physiologic changes in thirst and other mechanisms contribute to the increased propensity for dehydration among elderly persons. Incontinent elders may limit fluid intake voluntarily, and those with dysmobility or dementia may not access water effectively.

Water soluble vitamins may be depleted in times of stress, and may be affected by various medications. Vitamin C is appropriately absorbed in elderly individuals, but has been found deficient in some groups, related to methods of food preparation.

Vitamin B_6 is involved in central nervous system and immune system function, and aging individuals are more sensitive to its depletion. Older adults are at increased risk for vitamin B_{12} deficiency, particularly in association with atrophic gastritis and hypochlorhydria; sequelae may include neurologic and cognitive deficits even in the absence of macrocytic anemia.

The most prevalent fat soluble vitamin deficiency in the elderly is vitamin D, most commonly among institutionalized or homebound patients. With age, vitamin D is less efficiently produced by the skin and less easily converted by the kidney to active form, with lack of sun exposure and reduced intake of dairy products contributing to deficiency. Vitamin K deficiency may occur with antibiotic use, and its action is antagonized in persons therapeutically anticoagulated with warfarin. Deficiency of vitamin E is rare. Vitamin A is cleared more slowly with advanced age, and toxicity may develop in those taking excessive supplementation.

Requirements for healthy older adults are not altered for most minerals, although iron needs are decreased due to cessation of menses. Some have argued that more calcium than the current 800 mg RDA should be recommended for osteoporosis prevention. Depletions of minerals such as zinc, selenium and others may occur when marginal diets are coupled with medication interactions, alcohol abuse, or gastrointestinal pathology.

ASSESSMENT OF NUTRITIONAL STATUS

A streamlined approach is needed to screen older adults presenting for routine office care to determine if a more complete dietary assessment is indicated. Attention should be aimed at determining appetite, dietary habits, (including number of meals daily, food choices, cultural influences and whether the patient eats alone), and functional ability to obtain, prepare, and eat food. Availability of less than $30 weekly for food purchases is a marker of nutritional risk; other pressing expenses may compete for food expenditures on fixed incomes. A history of dental or oral conditions that impair chewing or swallowing should be sought. The present and past medical history should be reviewed for disease states contributing to or resulting from inadequate nutrition. It is important to determine if previous providers have suggested a particular dietary regimen, and to what extent the patient has followed the recommendations. A complete list should be obtained of all prescription and over-the-counter medications, including vitamin and mineral supplements, and an alcohol history should be elicited. The patient should be questioned for weight gain or loss and its time-course; one commonly cited criteria for concern is a 10 pound or greater involuntary weight loss over six months.

Undetected cognitive impairment or depression should be ruled out if weight loss or other clues are found, and history from family or care givers may be required.

Weight and height tables are available for adults, but lack well-established norms by age. A more useful parameter is the body mass index (BMI=kg/square of meters height). A BMI below 24 has been associated with increased risk of complications of nutritional inadequacy, whereas a BMI above 27 corresponds to 20 percent above ideal body weight. Triceps skinfold thickness is a less accurate anthropometric marker in the elderly. Physical examination often reveals only nonspecific changes similar to changes of normal aging in the absence of a severe classic deficiency state. Serum albumin, total cholesterol, hemoglobin, and total lymphocyte count are easily obtained laboratory evaluations that should trigger further evaluation if abnormally low. Tests for vitamin D status, vitamin B_{12} and folate levels, and others may be indicated if worrisome features are noted on evaluation.

The Nutrition Screening Initiative (NSI), a joint effort of several organizations, provides a checklist for patients and care givers to self-screen for nutritional risk that is well suited for use in community settings such as senior centers. For use in clinical practice, the screen identifies persons with BMI below 22 and above 27, as well as those with concerning socioeconomic or functional features, for further evaluation to include history, examination, and laboratory tests.

RECOMMENDATIONS FOR PATIENTS

The 1990 United States Dietary Guidelines stress intake of a variety of foods, with plenty of grains, fruits and vegetables, and low in fat, saturated fat, and cholesterol. Further, maintenance of a healthy weight, and moderation in use of simple sugars, sodium, and alcohol is recommended. These are generally appropriate guides for healthy aging individuals, and reduction in fat intake with increased physical activity is ideal for obese patients. However, in more frail elderly persons with marginal energy and nutrient intake, caloric reductions resulting from overzealous restriction of fat-containing foods for perceived cardiovascular purposes may be harmful.

Food labels now provide useful nutritional information to help guide consumer choices. The daily value percentages are in relation to Recommended Daily Allowances (RDAs) and are based on a 2,000 calorie diet. RDAs for micro nutrients are divided into gender specific recommendations for younger individuals and for those above age 50; only thiamine, riboflavin, niacin, and iron RDAs are lower for the older age group. Controversy exists as to whether additional separate RDAs should be determined for the oldest-old age group to reflect physiologic differences. RDAs reflect the maintenance nutrient needs of healthy individuals, but may not be adequate for patients with deficiencies or medical conditions that impact demand. Generally, items of greatest concern for elderly persons include vitamins B_6, B_{12}, and D, folate, calcium, and perhaps zinc. Although RDAs can generally be met without supplementation, as energy intake falls with decreased demand it may be more difficult to maintain adequate nutrient intake from food. Thus, nutrient-dense foods are necessary, and supplementation with a balanced vitamin and mineral preparation is useful in selected patients. Some products marketed toward older adults include high doses of beta carotene and the antioxidants, Vitamins C and E, purporting to serve anti-aging, anti-cancer, and other functions for which there remains no clear consensus. Elderly individuals should be cautioned against spending a disproportionate amount of money on supplements rather than on fresh foods. Patients should be encouraged to undertake appropriate exercise programs which may improve lean body mass and foster improved nutrient and caloric intake, even among frail elders with multiple comorbidities.

TABLE I: NUTRITION SCREENING INITIATIVE: "DETERMINE"[8]

D:	Disease
E:	Eating poorly
T:	Tooth loss or mouth pain
E:	Economic hardship
R:	Reduced social contact
M:	Multiple medicines
I:	Involuntary weight loss or gain
N:	Needs assistance in self care
E:	Elderly–above age 80

NUTRITION IN THE ELDERLY

Continued from page 21

The Nutrition Screening Initiative recommends six areas for interdisciplinary intervention to benefit elders at nutritional risk. These include attention to oral health, mental health, medication use, nutrition education, and modification of the diet, including consistency and route of administration, when necessary. Social service assistance with issues of isolated living arrangements, disability, and poverty may be critical; implementation of community-based aging and nutritional services are too often overlooked while emphasis is placed on medical interventions of unclear value. Moyer has summarized information about social programs and agencies related to nutrition in a clinically pertinent review, and Moore has described features of effective education of elderly patients and their families regarding diet and nutrition.

SUMMARY

Cost-effective evaluation and management of nutritional needs remains an ongoing challenge to those caring for older adults. Further elucidation of the factors that influence appetite and intake is needed, as is continuing research regarding the effects of various nutritional interventions upon clinically important outcomes. KMS

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A review of *Eisenhower's Heart Attack*

Marvin Dunn, MD

Eisenhower's Heart Attack *is written by Clarence G Lasby and published by the University Press of Kansas; hardcover, 332 pages, $29.95.*

In 1955, when President Eisenhower experienced his first heart attack in Denver, I was in my medicine residency. I recall thinking what a wonderful opportunity was about to unfold, one which would allow me a vicarious experience in how experts managed an acute myocardial infarction, rehabilitation, and ultimate estimation of prognosis. The press, then as now, was about to report every detail of the illness and its management. One must remember that in 1955, the management of acute myocardial infarction was quite primitive by present standards. There was no coronary care unit, no thrombolysis, no angioplasty, no coronary arteriography, and no beta blockers. The only "specific therapy" was anticoagulation with heparin and warfarin. Arrhythmias were managed with quinidine and procainamide, and heart failure with digitalis and thiazide diuretics. The defibrillators were all AC current. Cardiac resuscitation was performed by opening the chest with heart in hand.

In his book, Clarence Lasby does more than tell us about Eisenhower's heart attack. The President's past medical history of recurrent ileitis, prolific smoking, somewhat intractable stress-induced hypertension, hyperlipidemia, and family history of heart disease are discussed in detail as a prelude to the fateful heart attack. There is also discussion and speculation about a possible heart attack in 1949, but after careful review of records, there was no evidence that this occurred.

In my view the real hero of this narrative is Dr. Howard Snyder, the President's close friend and personal physician, who was called to see the President in the early hours of the morning of September 24, 1958. The President, who was staying in the home of his in-laws in Denver, had experienced "indigestion" and chest discomfort. I'm sure Dr. Snyder had to ponder whether this was a recurrence of ileitis or a myocardial infarction. Sometime during those early morning hours Dr. Snyder realized this was probably coronary thrombosis and administered morphine and papaverine. He continued to observe the President in the Dowd house and, as dawn approached, began to make the necessary calls to cancel appointments, arrange transfer to Fitzsimons Army Hospital, and arrange for consultants. Approximately 12 hours passed between the onset of symptoms and admission to the hospital. Dr. Snyder received considerable criticism for delay in the President's hospitalization. However, considering the primitive management for myocardial infarction discussed in the first paragraph of this review, the advantage of initial management in the hospital, rather than the home, was questionable. Dr. Thomas Mattingly, who was the Chief of Cardiology at Walter Reed Army Hospital was called to be the senior cardiovascular consultant. Dr. Mattingly and Dr. Snyder had an awesome responsibility: that of preventing multiple consultants from expressing independent, rather than coordinated, opinions to the press. The coterie of consultants included the illustrious Paul Dudley White. This was of particular importance when it was time for the President to make a decision about running for a second term as President. Drs. Snyder and Mattingly were in favor of the President running for a second term and prevailed. Through all of this Dr. Snyder remained the "captain of the ship" and spent all of his time personally attending the President through the heart attack, his surgery for ileitis, his strokes, subsequent heart attacks, and death. In my view Dr. Snyder epitomized the role of a devoted physician and friend. The narrative highlights this important doctor-patient relationship.

The remainder of the book is devoted to discussions of the President's remaining illness. It is a testimonial to the President's courage and the devotion and skill of the many physicians who attended him.

Editor's note: *In the Summer/Fall 1997 issue of the Journal, information regarding the Nelson Textbook of Pediatrics was inadvertently omitted. The book was edited by W. E. Nelson, senior editor; R. E. Behrman; R. M. Kliegman; and A. M. Arvin. The review was written by David S. Jacobs, MD with Rebecca Horvat, PhD. Additionally, the footnote should read:*

1. Perkins MD, Mirrett S and Reller LB, "Rapid Bacterial Antigen Detection is not clinically useful," *J Clin Microbiol*, 1995, 33(6): 1486-91.

The staff of Kansas Medicine *regrets the errors.*

The dissecting room

Arthur Hertzler, MD

The Horse & Buggy Doctor *was written by Arthur Hertzler, MD, a Halstead physician. It recounts the practice of medicine as it was during Hertzler's career. This piece is reprinted with permission from the Hertzler Foundation.*

IN THE DISSECTING ROOMS matters were different. Here we learned chiefly those things which would be needed in practice, because the young surgeons who taught us knew what structures were of practical importance and stressed them. We learned the anatomy of the windpipe, so that if we had quickly to do a tracheostomy for diphtheria we would not have to look it up in a book. Likewise, the inguinal canal was carefully dissected and demonstrated, because we might be called upon to care for a strangulated hernia, sometimes between days, without notice. The result was that we learned only the practical things, but we learned these well. We came out of school with a pretty good idea of where not to cut. On the whole, anatomy was better taught then than now, at least insofar as it relates to the practice of medicine. Of course, we lost the mental development which attends the dissection of tadpoles and dogfish, which privileges the students of today enjoy or, perhaps better said, are compelled to endure.

The dissecting room in our day was a mess. The preservation of material was then not understood, certainly not by our custodian. Many a properly raised young man blew his first tobacco smoke across the dissecting tables. Tradition had established that it was impossible to endure the odors of the dissecting room unless one smoked. I chose the lesser odor and did not smoke.

Curiosity brought many visitors to the dissecting room. The policeman on our beat was greeted by a shower of whatever happened to be at hand on the occasion of his visit. He had been called several times to quell class riots and we were all anxious to do him honor. One evening a number of students from the theological department paid us a visit. To them, medical students were a terrible lot of rowdies. They all wore Prince Albert coats and many of them received, in their tail pockets, free donations of the various available appendages. They probably thought no better of us after this experience. As a matter of fact, the cultural standing of the medics was not very highly regarded in the university as a whole. Once in a get-together parade on campus the pharmacy boys hired an Italian with his hand organ and monkey to lead the concourse just ahead of the president. Without any inquiry whatever it was concluded that the medics were responsible and the president came to the city the next day and told us collectively that we were a lousy bunch not fit to mingle in civilized society. **KMS**

Bernadine's funeral

Richard V Ohmart, MD

THE WEATHER HAS BEEN BEAUTIFUL THIS weekend, as only a fall weekend in Kansas can be. I told my brother yesterday, "It's a beautiful day for a funeral." We were in McPherson for the memorial services for our aunt, our dad's only sibling. At age 81 she had lived a long and, I hope, peaceful life. I had not been exceptionally close to her at any time, and she had been a nursing home resident in McPherson for some time, so I had even less association with her than in the past. Nevertheless her passing was a milestone in my life. She was the last of my parents' generation to die. I am now the oldest living member of my immediate family, a position I am not especially happy to accept, but one which I suppose was inevitable.

There was no funeral, only a simple graveside memorial service, a service which turned out to be more than I had anticipated. Our family, as many Kansas families, has found itself spread across the country, so I expected few attendees, probably my brother, his wife and their son, and myself and my son, whom I was to pick up on the way. A cousin, on the other side of my family, had offered to fix lunch for us at her home in McPherson. She and her husband attended the services also.

However, true to tradition, a number of others showed up as well. Bernadine, my aunt, had been raised in McPherson and nearby communities. Two friends from her childhood appeared, both bringing their husbands. Two other men, friends of hers, my father's and their parents, also were in attendance. I remembered their names, as I did the names of another couple, long-time residents of McPherson, as ghosts from the past. Bernadine had been in the WAVEs in WWII, so, something I had never expected, she was buried with military honors, complete with a color guard, a rifle salute, and the saddest of all melodies, Taps. I did not cry until the lonely notes wafted across the beautifully maintained cemetery. Then I wept, perhaps as much for the generation to which she belonged as for Bernadine.

Only one or two of the men in uniform had known Bernadine. A sense of duty and comradeship for someone who had shared an experience with them brought them all to the cemetery; veterans of much more than WWII, to "honor a fallen comrade." Who will play taps and fire the rifles for these men? They were all well into their seventies and eighties, but turned out to perform, one more time, the duty that must always remind them of their own advancing years and mortality. I can only marvel at their strength and sense of propriety, of the necessity of doing what must be done. I thank them all, although they are, and probably will remain, unknown to me. I do not know in what concrete the strengths of that generation must be rooted, perhaps their churches, perhaps their families or perhaps just a simple sense of what is right and proper, but I fear those strengths may disappear as that generation does.

After the ceremony I spoke to one of the men, whom I vaguely remembered from my own childhood. I had been born in McPherson, but had lived there only until we moved to Wichita at the start of WWII. Nevertheless, with grandparents on both sides of the family and the few uncles and aunts I could claim all living in the area, we returned frequently. I looked at the elm trees in the cemetery, the milo field beside it ready to harvest, and the beautiful flowers adorning most of the grave sites, and told him that McPherson still, after 50 years, felt more like home to me than any other place. He told me that there must be others like me, as many people were returning to "Mac" to retire.

That sense of place and family still exists, at least to some extent, in those of my age. Two months ago we had a reunion attended by all seven (admittedly not a great number) of the cousins of my generation. This was on the farmstead I had visited as a boy, now the residence of a cousin. While the buildings were different, the atmosphere was not. Ready acceptance, good food, reminiscences; all the pleasures associated with a reunion of friends were there. Yet I, at least, enjoyed it with a tinge of sadness, regret that I could not live my entire life in that atmosphere. The knowledge that I had to return to my world and my work, although of my choosing, colored my enjoyment of the comradeship of the moment. Perhaps by returning to Kansas communities such as McPherson, the communities where our family, social and church roots lie deep, we can, in our later years, recapture some of that sense of friendship and acceptance so important to us in our youth. Perhaps, as the oldest surviving family member, I feel more need for that comradeship now than in the past. It is amazing how, as I get older, I understand better the feelings and actions of my parents.

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Kansas primary care physicians and preventive medicine guidelines

David G Meyers, MD and Brad T Steinle, MSEd, MD

WITH THE SUPPORT OF THE KANSAS Medical Society during the summer of 1994, we surveyed 326 randomly selected Kansas primary care physicians to determine their knowledge of recent consensus preventive practice guidelines. As an expression of our gratitude to the participating physicians, we wish to summarize the study results, as published in the *American Journal of Preventive Medicine.*

It is clear that many effective preventive medicine techniques are currently underutilized in practice. Suggested barriers to full utilization include inadequate compensation, lack of physician interest and enthusiasm, the health care system's orientation toward treatment of acute diseases, and disparate or even conflicting expert opinions. We investigated the role of inadequate knowledge of prevention techniques.

METHODS

Using a random block design stratified on specialty {family practice (FP), internal medicine (IM), obstetrics - gynecology (OB), and pediatrics (PED)} and urban versus rural practice settings, we selected 326 primary care physicians practicing in Kansas. Each selected physician received a letter stating the objective of the project, noting endorsement by the Kansas Medical Society and approval by the University of Kansas Human Subjects Committee, and advising them that an investigator would contact them by telephone. The survey instrument consisted of 14 demographic questions, eight questions assessing acquaintance with published sources of national consensus recommendations, and 11 speciality-specific knowledge questions. These questions were based on nine widely published government, medical organization, or expert panel recommendations. The questions had been previously evaluated for discriminate ability by testing nine first year medical students and nine academic preventive medicine specialists. Participants were asked only the knowledge questions specifically applicable to their speciality. Analysis used ANOVA, Chi^2 test, Fisher's exact test, and logistic regression.

RESULTS

The survey response rate was 90 percent. By speciality, physicians differed in residency type and duration, formal preventive medicine training, board certification, and practice type.

Physician acquaintance with published sources of preventive medicine recommendations was highest for the Advisory Committee on Immunization Practices and lowest for the Clinical Efficacy Project of the American College of Physicians (Figure 1). Family physicians (92 percent) and internal medicine physicians (84 percent) were most aware of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure (JNC-V) recommendations. Among OB physicians, the highest awareness was for the

Figure 1.

Physician Acquaintance with Published Sources of Preventive Medicine Recommendations

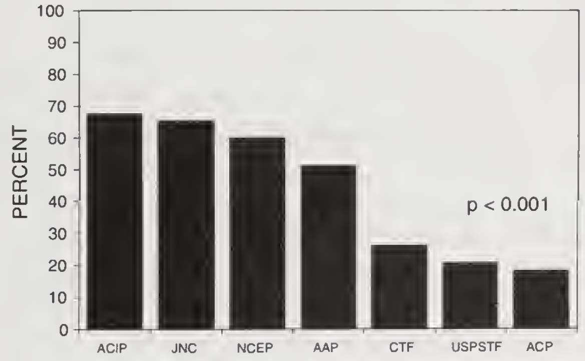

Figure 1: Explanation of abbreviations—ACIP: Advisory Committee on Immunization Practices; JNC: Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure; NCEP: National Cholesterol Education Program; AAP: American Academy of Pediatrics (Redbook); CTF: Canadian Task Force on the Periodic Health Examination; USPSTF: US Preventive Services Task Force; ACP: American College of Physicians: Clinical Efficacy Project American Journal Preventive Medicine *1997; 13:45-50. By permission of Oxford University Press.*

PREVENTIVE MEDICINE GUIDELINES

Continued from page 27

National Cholesterol Education Program (NCEP) guidelines (50 percent). PED physicians were most acquainted with the American Academy of Pediatrics "Redbook" (99 percent).

Shown in Figure 2, there were no significant differences in correct response rates among medical specialities for any of the knowledge questions except for the age of first influenza vaccination question (IM-69%, FP = 47%, p<0.05). Very low correct response rates for treatment thresholds of both systolic and diastolic hypertension were observed in all three applicable specialities. Only 29 percent of participants chose the JNC-V recommended 150 mmHg systolic threshold, while 27 percent of physicians chose the 95 mm Hg JNC-V diastolic threshold. For the LDL cholesterol target level in patients with coronary heart disease, only 39 percent chose 100 mg/dl (the 1993 NCEP recommendation) while 32 percent chose 130 mg/dl (the 1987 NCEP recommendation).

Board certified physicians had a significantly higher overall correct response rate for the knowledge questions (certified = 78 ± 24% versus rural 77 ± 24%), gender (male = 76 ± 24% versus female = 78 ± 24%), participation in formal preventive medicine training (yes = 77 ± 23% versus no = 74 ± 25%), attending lectures (yes = 77 ± 23% versus no = 74 ± 25%), or attending continuing medical education courses (yes = 76 ± 24% versus 74 ± 24%), all p = NS.

Figure 2.

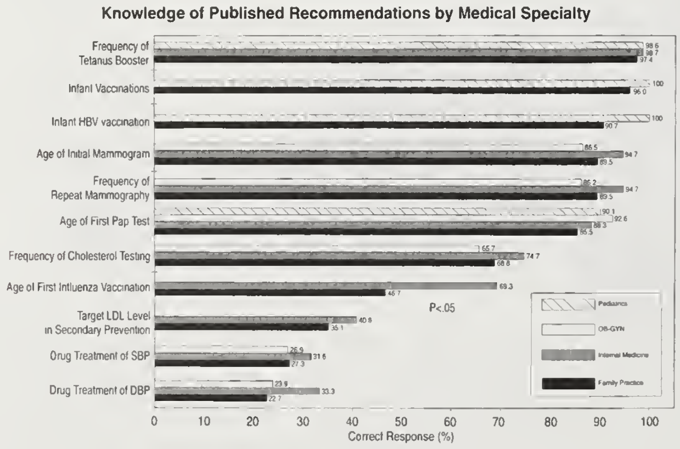

Figure 2. DPB: diastolic blood pressure; LDL: low density lipoprotein;, SBP: systolic blood pressure; American Journal Preventive Medicine *1997: 13:45-50. By permission of Oxford University Press.*

DISCUSSION

Overall, the awareness of participating Kansas primary care physicians to published consensus guidelines, as measured by their correct responses to consensus-based practice questions was quite high. Therefore, it appears that lack of knowledge generally is not the major cause of low utilization of preventive medicine practices. While actual performance of these recommended practices was not measured in the current study, it is not likely that our participating physicians differ in their preventive practice behaviors from physicians with documented low utilization.

The low correct response rates with hypertension and cholesterol treatment may stem from several factors. The thresholds and target levels are discrete points whereas, in actual practice, a continuum of risk-benefit exists. These recommendations have evolved and changed over time–with several revised guidelines. Some guidelines are not clearly delineated in their publication. Additional confusion may arise from appropriates different recommendations for primary versus secondary prevention.

While agreeing with other studies which found higher awareness among board certified physicians, our findings differ from others in regard to gender, urban rural, and speciality differences. Our observations agree with others that lectures, formal training, and traditional continuing medical education have little overall impact on physician practice behavior.

We identified no consistent lack of knowledge or awareness of preventive medicine practice guidelines among Kansas primary care physicians which would explain the low utilization of preventive medicine practices. Thus, in a sense, published guidelines have been effective. If knowledge is not the barrier to full utilization, then techniques other than physician education are necessary. Strategies using improved reimbursement for preventive services, computerized algorithms and reminder systems, and more effective use of non-physician professionals might be more likely to increase application of prevention practices.

KMS

Figure 3.

Comparison Between Board Certification and Knowledge of Published Prevention Recommendations

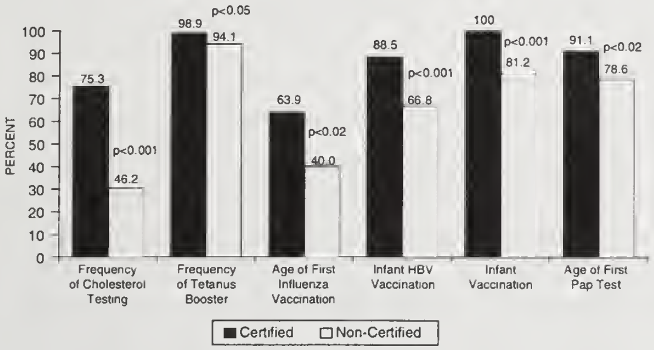

Figure 3. American Journal Preventive Medicine *1997: 13:45-50. By permission of Oxford University Press.*

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Mercury spills: an under-recognized hazard

C Timothy Monroe, MD, MPH

WITHIN THE last 12 months in Kansas, there have been at least five incidents involving spills of metallic mercury requiring assessment and clean-up activities, and involving the Environmental Protection Agency (EPA) and/or the Kansas Department of Health and Environment (KDHE). Two incidents involved the total or partial evacuation of public schools, one involved the partial evacuation of a long-term care facility, and others involved a university laboratory, a hospital, and a private medical office. Fortunately, none of these incidents caused known toxicity to any individuals. This year, the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Public Health Service issued a joint public alert addressing human health hazards related to exposure to metallic mercury. Numerous incidents have occurred in recent years which suggest that the general public is not aware of such potential hazards. The most serious and most publicized incident occurred in Belle Glade, Florida in 1994. After some children found five pints of mercury in an abandoned vehicle and shared it among friends, a school and 58 residential structures had to be evacuated and monitored for unsafe levels of mercury vapor. Fifty-four individuals were determined to have elevated blood or urine mercury levels.[1]

Liquid mercury in measurable volumes (one to 16 fluid ounces) may be found in various settings, with the potential for exposure to humans. It is common in old industrial sites, in high school and university laboratories and in health care settings. When inhaled, 80 percent of dissolved elemental mercury vapor is absorbed and rapidly diffuses into tissues, readily crossing the placental and blood-brain barriers. Within the cells, elemental mercury is oxidized to Hg2+ for eventual excretion via bile and urine. The biologic half-life of elemental mercury is about 60 days. Ingestion of liquid mercury poses limited risk of toxicity, in that elemental mercury is poorly absorbed from the gut.[3]

Acute or chronic exposure to elemental mercury has its primary adverse effects on the central nervous system, with the potential to cause irreversible CNS injury. The presentation of acute exposure to mercury vapor includes respiratory symptoms (cough and dyspnea), gastrointestinal symptoms (nausea, vomiting, diarrhea, a metallic taste in the mouth, and salivation) as well as fever. More severe signs include colitis, nephrotic syndrome, interstitial pneumonitis, necrotizing bronchiolitis, and pulmonary edema. The presentation of chronic exposure to mercury vapor involves primarily CNS signs and symptoms; insomnia, anorexia, irritability, emotional lability, headache, short-term memory loss, tremor, distal paresthesias, and limb weakness.[3]

If exposure to elemental mercury is suspected, the history taking should focus on possible sources such as: use of mercury-containing latex paint in the home; any known recent spill of liquid mercury in a work, school, or residential setting; a recent move into a structure about which spill history is unknown; or working or playing with mercury in a work or school setting. Available diagnostic tests include assays of blood and urine. Blood testing is useful primarily for detection of acute exposure, since the blood half-life is three days. The normal range is less than 1.5 ug/dL, and the symptom threshold is 5 ug/dL. For chronic exposure, a 24-hour urine specimen is the best assay. The normal range is less than 20 ug/L. Subtle neurological signs (decreased nerve conduction and brain-wave activity and impaired verbal skills on testing) may appear in the range of 20-100 ug/L. More severe signs and symptoms (irritability, memory loss, tremor, and abnormal renal function) appear above 100 ug/L. Treatment consists of removal of the source, supportive therapy, and chelation therapy for cases of severe toxicity.[3]

The manner in which mercury spills are cleaned up is crucial in order that the hazard not be worsened and that exposure be minimized. The three actions that should be taken as part of an appropriate response are:

1. Immediately evacuate the room or rooms in which the spill occurred.
2. Seal the affected area from the ventilation system of the larger structure, using tape and plastic coverings to seal ventilation intakes, outputs, and door jambs.
3. Call for technical assistance

Do not:

1. Wash the mercury down drains.
2. Allow mercury to contact the skin or clothing.
3. Attempt to vacuum the mercury.
4. Allow the mercury in contact with products containing chlorine or ammonia.
5. Remove collected mercury and/or broken containers from the affected area.

Mercury is classified as a hazardous material, and it is required by law that all spills, regardless of amount, be reported to the KDHE Emergency Spill Hotline (785.296.1679 daytime; 785.296.0416 nights and weekends). A definitive hazard abatement process will include a thorough effort to recover all visible and accessible mercury in a controlled manner, ventilation of the affected space to the exterior of the structure, and serial testing for mercury vapor levels to ascertain that the levels remain consistently below the safety threshold. The ATSDR recommends that mercury vapor levels in indoor air be no higher than 0.3 ug/m3.4 This standard is based on the assumption that maximum exposure may be as long as 24 hours per day, and the assumption that pregnant women, infants, and young children would be routinely exposed at such levels. The heightened level of concern for pregnant women and young children is based on the assumption that developing neural tissue is more vulnerable to injury from exposure to a know neurotoxin.

In conclusion, mercury is a common element in our environment and a potential toxin in the workplace, in schools, and in homes. The most effective way to prevent exposure and injury is to be aware of its potential toxicity and to respond appropriately when spills or other hazardous situations occur. Technical assistance is available from the Kansas Department of Health and Environment through the Bureau of Environmental Remediation (see Spill Hotline above) within the Division of Environment and the Office of Epidemiologic Services (OES) within the Division of Health at 785.296.2951 daytime (pager 785.357.5683 nights and weekends). Public and private sector resources are available within the state for hazard assessment and abatement, and contact information is available through the Spill Hotline or the OES. KMS

Dr. Monroe is a Medical Epidemiologist in the Office of Epidemiologic Services at the Kansas Department of Health and Environment.

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Secretary's report, 1895

This report first appeared in the official proceedings of the KMS meeting held May 16-17, 1895.

DR. G A WALL, Corresponding Secretary read his report. It is as follows: To the Members of the Kansas Medical Society: I here with beg leave to submit the following report: As per instructions from the Publishing Committee I asked for bids for printing 400 copies of the proceedings for 1894. Only two parties made a reasonable bid. They were Hall & O'Donald, of Topeka, and the *Kansas Medical Journal*. We at first supposed that 250 pages would fully cover the amount of reading matter, so bids were asked for on that basis. Hall & O'Donald bid $323 and the *Kansas Medical Journal* $325, or at the rate of $1.30 per page. In view of the fact that the editor was a physician, we deemed it advisable to give him the printing, because technical terms were so frequent that we feared that unless the proof was carefully read many errors must certainly occur. As to the correctness of this decision, we leave it to the judgment of the members after a careful perusal of the proceedings. We found when we got ready to print them that they would run very much over the contract price, because the proceedings would contain many more pages. Fearing to incur too much expense, we concluded to print only papers that were read before the meeting, thereby keeping the volume down to 318 pages, for which we paid $429 for printing; for mailing, wrapping, etc., $30.20, making a total expense to the Society of $459.20, or an average of $1.15 per copy delivered to the members. To pay the debt incurred in printing we found it necessary to borrow $225, which added to the amount in the hands of the treasurer, made the payment complete. This loan was made by the Merchants' National Bank, of Topeka, who holds the note of Dr. Purdue and myself for the amount. This sum for publication may seem large at first glance for each year, yet when we come to compare the proceedings of the past two years with those two volumes which cover the period from 1860 to 1888, inclusive, we find that it requires as large a volume now for one year as it did then for five. Dr. C H Guibor, who was closely identified with the Society in those years, tells me that at one time it was found necessary to make an assessment of two dollars to pay for the publication. There is no compact volume of the proceedings from the year 1888-1893, and I would suggest that a committee be appointed to compile them and embody them in the proceedings for the coming year. For some reason there were no available funds with which to print them. If the Society desires to keep up with the procession and have the transactions published yearly, some changes must be made in the bylaws to increase our funds. At present the dues of the Society are too small to continue our yearly publications.

Now a few words as to the price paid to the stenographer: We paid last year $100 for his services, which may seem large, but when you take into consideration that in former years we paid the secretary $50 for his services but now he receives nothing, you will see that in reality the society is only paying $50 a year for a full report of the transactions, and to do so a stenographer is absolutely necessary. I am sure that our last year's proceedings compared favorably with the reports of many of our eastern brothers, and was far better than many we have received and have cost more money. The Society owes Dr. McVey many thanks for the prompt manner which these proceedings were gotten out: they were ready for distribution by August 15, 1894, which was many weeks before any other society had issued any.

As per resolution I forwarded to Dr. W B Atkinson, Secretary of the American Medical Association, a copy of the resolution adopted by the Society last year recommending a modification of the Code. This resolution is found on page 63 of the transactions of 1894.

During the year many inquiries and requests were made for exchange copies of our proceedings; these requests were complied with in all instances, as it was deemed advisable by the Secretary that Kansas and the profession of Kansas should be kept where they rightfully belong, at the head of the procession.

Following is a list of exchanges sent out:

Dr. E S Elder, Indianapolis, IN
Dr. R S Thompson, Spokane, WA
Dr. D H Howell, Atlanta, GA
Dr. Fred C Curtis, Albany, NY
Dr. L A Merriam, Omaha, NE
Dr. H A West, Galveston, TX
Dr. C F Wainwright, Kansas City, MO
Dr. L B Godfrey, Camden, NJ
Dr. C S Chase, Waterloo, IA
Dr. J D Fernandez, Jacksonville, FL
Dr. A A Lobengier, Denver, CO
Dr. J H Browne, New York Academy of Medicine
Dr. C L Sweet, Boise, ID
Librarian, Washington, DC
Stormont Library, Topeka, KS
State Historical Society, Topeka, KS
Dr. Jas T Smith, Baltimore, MD
Dr. J R Jordan, Montgomery, AL
Dr. W B Atkinson, Philadelphia, PA
Dr. Reuben Peterson, Grand Rapids, MI
Charlotte Medical Journal, Charlotte, NC
Dr. John W Kyger, Kansas City Academy of Medicine
Dr. Henry B Arts, Milwaukee, WI
Dr. Geo D Hersey, Providence, RI

During the early winter months, I addressed to the various secretaries of the local societies letters asking them for a list of members. My object was to find out how many of their members were not members of the State Society, and thus write them asking them to join the state organization. These letters were promptly answered with one exception, the Central Branch, and its reply has as yet failed to reach me. On March 19, I mailed 500 preliminary announcements to the members of the local societies giving the dates of the 1895 meeting and asking them to become identified with us. I am pleased to say that many inquiries resulted from this announcement from physicians desiring to join the Society. On May 1, 1895, the program was mailed to members only.

Heretofore we have had no roll call systematically kept. That we may have a correct roll of attendance I have made a roll book in which the attendance from day to day may be correctly kept. In past years the roll has been called on the opening day and not thereafter in that way many members who were in attendance did not get credit for the same.

There are now 300 active members and 29 honorary members in the Society. During the year the following have died:

Dr. Reid Alexander, Topeka
Dr. M C Farrar, Atchison
Dr. B F Hepler, Fort Scott
Dr. H W Morgan, Clay Center
Dr. M O'Brien, Topeka

Total, 5.

The following have withdrawn:

Dr. J D Justice, Quincy, Il
Dr. W E Shastid, Pittsfield, Il

Total 2.

Regarding rates on the various railroads, I desire to say that the best I could do was a fare of one and one-third on the certificate plan, which specifies that 100 paid fares must be in attendance by rail. I endeavored, through Mr. W J Black, AGPTA of the AT & SF Railway, to get a rate without any restrictions, but was unsuccessful. Before any rates are gotten it will be necessary that I have 100 certificates to take to Rowley Bros., so that they may endorse them. KMS

A moment of silence

Lorraine L Brown, MD

Dr. Brown, 39, an Ottawa family practice physician, died October 11, 1997.

She graduated from the University of Kansas School of Medicine in 1987. She worked in family practice as a civilian at U.S. Navy hospitals in Cherry Point, North Carolina; on Okinawa in the Pacific; and in Long Beach, California.

She married Dr. Robert L Brown in 1987. He survives.

Dr. Brown had been a member of the Catholic Church and attended First United Methodist Church. She was a member of the American and Kansas Academy of Family Physicians, the Sierra Club, and was active in cancer support groups including Relay for Life and Camp Bluebird.

Christopher G Davis, MD

Dr. Davis, 88, a retired family practice physician, died September 2, 1997.

He graduated from the University of Kansas School of Medicine in 1939.

Galen W Fields, MD

Dr. Fields, 82, a retired family physician, died July 4, 1997.

He graduated from the University of Kansas School of Medicine in 1949. He practiced medicine for 45 years. Dr. Fields was a veteran of World War II.

He married Evelyn McAninch in 1938. She survives.

Dr. Fields was a member of the First Baptist Church, Lions Club, Masonic Lodge, various medical associations including the Kansas Obstetrical Society and the Kansas Academy of Family Practice of which he was a past president of both, the Boy Scouts, and Kiwanis Club.

Orval L Hamm, MD

Dr. Hamm, 74, a retired Newton general practitioner, died September 19, 1997.

He graduated from the University of Kansas School of Medicine in 1949. He was a U.S. Army Medical Corps veteran of World War II and he served as a medical missionary in Egypt from 1950 to 1953 and in Pakistan from 1955 to 1988.

He married Lucile in 1946. She survives.

Dr. Hamm belonged to First United Presbyterian Church, the Christian Medical Dental Society, and was a volunteer for Health Ministries of Harvey County until August, 1997.

Hervey R Hodson, MD

Dr. Hodson, 94, a retired private practice surgeon, died November 5, 1997.

He graduated from Northwestern University Medical School in 1931.

Pierre W Keitges, MD

Dr. Keitges, 63, an Overland Park pathologist, died August 5, 1997.

He graduated from Creighton University School of Medicine in 1957.

Oliver L Martin, MD

Dr. Martin, 89, a retired obstetrician & gynecologist, died October 5, 1997.

He graduated from the University of Kansas School of Medicine in 1937.

Dr. Martin's wife, Helen Black Martin, preceded him in death earlier this year.

PROUD G O'NEIL, MD

Dr. O'Neil, 83, a retired otolaryngologist, died in March, 1997.

He graduated from Washington University School of Medicine in 1939.

WILLIAM C STRUTZ, MD

Dr. Strutz, 89, a radiologist who practiced in Atchison, Leavenworth, and Winchester, died October 8, 1997.

He graduated from Marquette University in 1943.

Dr. Strutz was also board certified and practiced surgery in Milwaukee. He was a member of Sacred Heart Catholic Church and served as Leavenworth County Coroner for many years.

His wife, Margaret, preceded him in death.

HOWARD WAGENBLAST, MD

Dr. Wagenblast, 75, a retired family physician in Salina, died July 19, 1997.

He graduated from the University of Kansas School of Medicine in 1949.

Survivors include his wife, Arlene, and two sons. KMS

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KANSAS MEDICINE

Volume 98, Number 4

6
Acute onset of ascites associated with rupture of the right atrium following a horse kick to the chest: a case report

9
Acute megakaryoblastic leukemia: a common presentation for an uncommon disease

12
A comparative table of non-steroidal anti-inflammatory drugs 1998

22
The safety, accuracy and cost savings of needle-localized and ultrasound-guided breast biopsies using intramuscular midazolam

26
A case of mixed cryoglobulinemia

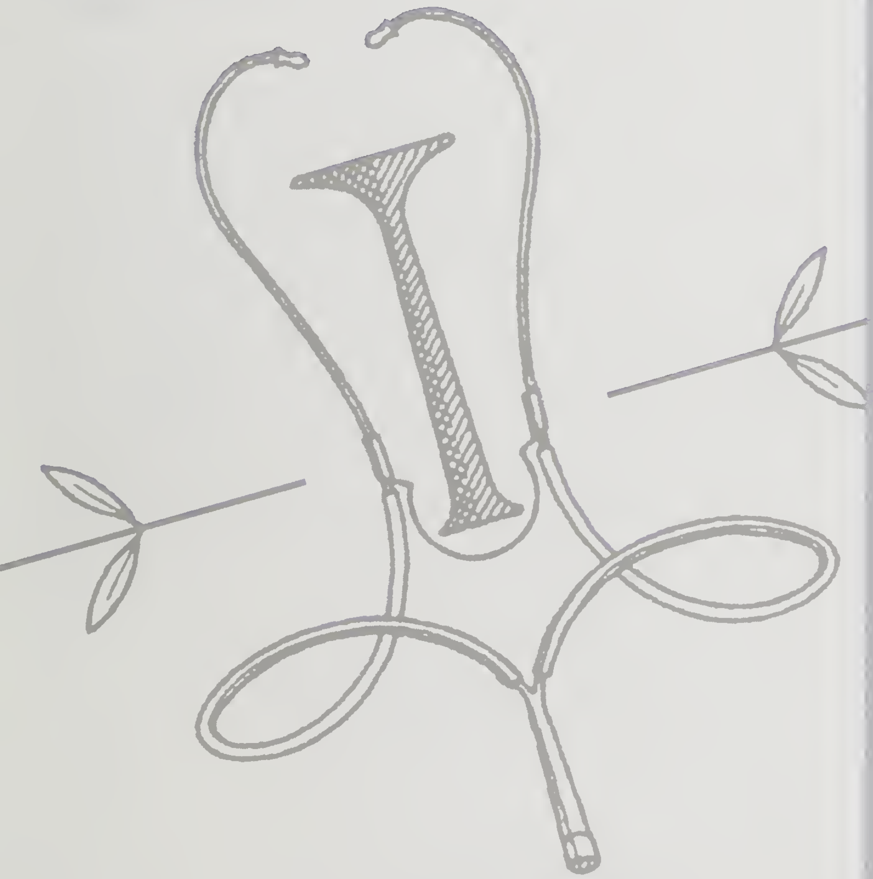
30
Medicare adjusted average per capita costs in Kansas:a rural/urban differential

47
Pediatric emergency department usage and the need for after-hours clinic care in Wyandotte County, Kansas

53
High frequency oscillatory ventilation in severe acute asthma

56
Urban-rural differences in Medicare in Kansas

62
Struggles of the epileptic student; epilepsy and education



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KANSAS MEDICINE

Volume 98, Number 4

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SCIENTIFIC ARTICLES

Acute onset of ascites associated with rupture of the right atrium following a horse kick to the chest: a case report . . . 6
Acute megakaryoblastic leukemia: a common presentation for an uncommon disease . . . 9
A comparative table of non-steroidal anti-inflammatory drugs 1998 . . . 12
The safety, accuracy and cost savings of needle-localized and ultrasound-guided breast biopsies using intramuscular midazolam . . . 22
A case of mixed cryoglobulinemia . . . 26
Medicare adjusted average per capita costs in Kansas: a rural/urban differential . . . 30
Pediatric emergency department usage and the need for after hours clinic care in Wyandotte County, Kansas . . . 47
High frequency oscillatory ventilation in severe acute asthma . . . 53
Urban-rural differences in Medicare in Kansas . . . 56
Struggles of the epileptic student; epilepsy and education . . . 62

DEPARTMENTS

Editorial Comment

Thanks for the memories . . . 3

Your Older Patient

Appropriate use of hospice services for elderly patients . . . 4
The older driver . . . 37
The role of the attending physician in long term care facilities . . . 65
The role of the medical director in nursing facilities . . . 69
Hypnotics in the elderly . . . 74

Book Review

A collection of masterpieces . . . 77
A review of *Rheumatic Fever and Streptococcal Infection* . . . 79
On the shoulders of giants . . . 80

Preventive Medicine

The prevalence of vascular disease risk factors: comparison of coronary versus peripheral artial disease . . . 40

News from KDHE

Are immunization coverage rates for Kansas children improving? . . . 42

Thanks for the memories

Warren Meyer, MD

On September 19th, the Council of the Kansas Medical Society decided to discontinue the publication of *Kansas Medicine* as of January 1, 1999. The continuing and worsening problems of the Journal were detailed in the Editor's report to the House of Delegates of the Kansas Medical Society this May and will not be repeated here except to say that the leadership of the Society was present at the decision to "pull the plug" on her since further care was deemed "futile."

There appeared to be two differing methods of dealing with this news. The first was to outline this last editorial column in black and title it, "In Memoriam." However, the better option was to end the *Journal* as Bob Hope ends his shows, "thanks for the memories." Upon reflection, this is the better manner of exiting the scene. We have many reasons to utter that familiar phrase because there are many things for which we need to be thankful to the Journal. We are thankful that it was begun by the Kansas Medical Society in order to bring the latest and best in medical information to the physicians of Kansas. It contained excerpts from the A.M.A. as well as locally written articles and was intended to provide a two-way means of communicating with the Society's membership. The "VoxDox" section allowed members to critique, comment and express their opinions to the Journal. (Unfortunately, this avenue also fell into disuse in the latter days of the Journal.)

Many of our older readers will be thankful for this or that feature of *Kansas Medicine* that particularly affected their practice or their interests. We hope that such memories are pleasant and leave you with a good feeling about the Journal.

Thankfully, the *Journal of the Kansas Medical Society* (its name until 1985), in its early days, kept the Society in the financial black as a result of its advertising revenues. The advertising dollars also provided the beautifully colored front covers from 1985-1996, most of them depicting Kansas scenes done by native Kansas painter, Jim Hamil. The KMS and KMSA Presidents kept us informed of their activities and the issues they saw challenging medicine during their time in office. Many University of Kansas medical students had their senior papers published and learned the techniques of preparing scientific papers for publication.

We are thankful that at times the Editor would bring a dilemma challenging the Society in the past (not necessarily the same as a current problem) and help us to realize and reflect that, "the more things change, the more they stay the same" and, "to know the past is to be prepared for the future." It sought to acquaint the physician with his/her responsibility to be active in the political arena, since government was involving itself in the way medicine was and is being practiced. This is also a needed reminder for us all today.

Perhaps the best thing most of us older doctors remember and are thankful for was the devoted work and talent of Dr. David Gray, Editor of the Journal for 20 years (1973-1993). His editorial style, intellect, depth of knowledge, creativity and communicating ability were admired and revered by all who knew him. His editorial was the first article read when the current issue of the Journal arrived at our offices. He was equally at home with prose, poetry and fantasy. His wit was dry, yet penetrating. Thanks for the memories!

Excerpts from *Horse and Buggy Doctor* by Dr. Arthur Hertzler helped us to relive the practice of medicine in Kansas during the late 1800s and early 1900s from the doctor's point of view. Despite the technological advances since that time, the doctor-patient relationship still shines through and must continue to do so if medicine is to be highly regarded and respected in the future.

We must also recognize the Editorial staff of *Kansas Medicine* who have helped in its policy and preparation: Drs. Halley, Jacobs, Kroll, Kyner, Pierce, Reals, Murti, Vine and Walling. We would like to single out Dr. David Jacobs for his enthusiasm in bringing back the book review section to the Journal. He was responsible for most of the books reviewed.

Last, we would like to thank the KMS staff for their diligent work in getting *Kansas Medicine* ready for publication.

Finally, thanks to our readers and their loyalty. It was our pleasure and hope you enjoyed the *Journal of the Kansas Medical Society* and *Kansas Medicine*. Thank you for the memories! WEM

Appropriate use of hospice services for elderly patients

Ann Allegre, MD, FACP and Kate Cummings, RN, CRNH

THE ELDERLY represent eighty percent of those who die in America. Concerns have been raised about the high cost of dying, the inappropriate use of aggressive care at the end of life, inadequate treatment for pain and other symptoms, and the loss of patient dignity and control. SUPPORT (Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment) showed that these fears are real. Among the findings on SUPPORT's 9,105 hospitalized patients: only 47 percent of physicians knew when their patients preferred to avoid CPR, 56 percent of patients had life-sustaining interventions during the three days before death, and 50 percent of the patients who died were reported by family members to have moderate or severe pain at least half the time.[1]

Hospice services are the most completely developed model of end of life care, but are only provided to about 15 percent of dying persons. A study of 1990 Medicare data showed that hospice referrals often came relatively late in the final illness, with 15.6 percent of the patients dying within 7 days of hospice admission.[2] One barrier to timely hospice referral is the reluctance of both patients and physicians to recognize that the illness is terminal. Another barrier may be the requirement by Medicare that patients be certified to have a six-month life expectancy, since our ability to predict prognosis is notably poor. Such under-utilization of hospice care and a lack of comprehensive palliative care programs outside of the hospice model raises the likelihood that many patients are not receiving care that will focus on their quality of life, aggressively control symptoms, and assist in finding meaning as patients face the end of their lives. Patients and families often comment to hospice staff that they wish they had known about hospice services earlier.

Hospice coverage is available through Medicare, Medicaid, and most managed care programs. Medicare-eligible patients who are enrolled in hospice programs receive services and benefits in addition to those usually covered under Medicare. These include coverage of prescription drugs related to the primary diagnosis, 24-hour availability of nursing staff on call, and staff with specialized training in end of life care. The interdisciplinary hospice program also provides social work visits for emotional support for patient and family, chaplain visits to address spiritual concerns, home health aides, volunteer program, and bereavement support for the surviving family members. Care can be provided in the patient's home or in a long term care facility. Eighty-five percent of Americans are thought to die in institutions, with an increasing percentage of the elderly dying in nursing homes.

Although most hospice programs are designed for patients who are seeking symptom control and preservation of quality of life rather than curative treatment, not all patients or families have come to terms with the prognosis at the time of enrollment. Gently helping them to accept their situation is one of the common tasks of the hospice staff. The patient is not required to be homebound or to have a skilled need, but must have a life expectancy of six months or less if the disease follows the usual course. If living at home, they must have a physically and emotionally capable caregiver, or agree to make other arrangements when they can no longer take care of themselves.

Symptoms are generally managed with medications given orally, because it is least invasive and the least likely to interfere with activity. If maximal dosages of opioids and co-analgesics fail to control pain or cannot be tolerated due to side effects, then other means are used such as interventional nerve blocks and radiation therapy.[2] Many patients and providers are hesitant to use adequate doses of opioids in the elderly because of fear of side effects, so that elderly patients are less likely than younger patients to receive adequate pain control. With attention to management of side effects such as constipation, it is estimated that pain can be adequately controlled in 98 percent of hospice patients.

Although patients with cancer have been most frequently served by hospice, more elderly patients die of cardiac disease, chronic lung disease, and chronic neurologic syndromes such as Alzheimer's and stroke. These diagnoses are also appropriate for hospice services. Because determining prognosis is more difficult in non-cancer disease states, the National Hospice Organization has developed guidelines for hospice admission for a number of these diseases. For example, studies of dementia patients have shown that they must be at an advanced stage, having lost the ability to ambulate and to say more than one word per day, before they are within six months of dying.[3]

Most physicians who treat elderly patients are familiar with the person of advanced age who has no diagnosable medical condition but stops eating and seems to lose their will to live.[4] In the very elderly, physicians and families often agree that aggressive diagnostic studies or interventions are not appropriate, and these patients are allowed to die quietly. Hospice can be useful in such situations, especially if symptoms are difficult to control or some family members are having difficulty coping.

In conclusion, hospice care has much to offer but reaches only a small portion of the dying elderly persons in America. We believe that the dying process would be more satisfactory for many patients and families if they had access to good palliative care. Physicians also benefit when they work with hospice in the care of dying patients, due to the level of support provided to patients and their families.

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Acute onset of ascites associated with rupture of the right atrium following a horse kick to the chest: a case report

Bart P Green, MD and Frederic C Chang, MD, FACS

MYOCARDIAL RUPTURE FOLLOWING BLUNT CHEST TRAUMA IS A RARE ENTITY WITH A HIGH mortality rate. It is estimated that myocardial rupture occurs in approximately 5 percent of motor vehicle fatalities and comprises 0.5 percent of all admissions of patients with blunt trauma.[1,2] Successful management requires prompt diagnosis and surgical intervention. Herein, we report a case of rupture of the right atrium following a horse kick to the chest in a patient who presented with cardiac tamponade and acute onset of ascites. The development of acute ascites in association with cardiac tamponade has not been previously reported in the literature.

CASE REPORT

A 21-year-old female presented to our trauma unit 90 minutes after sustaining a horse kick to the right anterior chest. She was alert and oriented, but complained of chest and right upper quadrant pain. Vital signs were: blood pressure-98/65; pulse-142; respiratory rate-40 and oxygen saturation of 96 percent. Physical examination revealed a contusion to the right anterior chest; cyanosis of the upper torso, head and neck; distended neck veins; muffled heart sounds and right upper quadrant tenderness. Chest roentgenogram was normal, however, ultrasonography in the trauma unit revealed pericardial fluid consistent with cardiac tamponade. Additionally, large collections of fluid were detected in all abdominal quadrants suggesting hemorrhage within the abdomen.

The patient remained stable in the trauma unit and was taken emergently to the operating room for exploration of her abdomen and pericardium. Upon entering the abdomen, a large quantity of clear ascitic fluid was discovered with no evidence of intraabdominal hemorrhage. The patient became hypotensive and bradycardic necessitating pericardiocentesis with collection of 60 cc of nonclotted blood. The patient was unresponsive to this maneuver and subsequently developed cardiac arrest. A median sternotomy was then performed while subdiaphragmatic cardiac massage was instituted. The pericardium was opened and approximately 400cc of blood was evacuated. A laceration of the right atrium was discovered and controlled with a vascular clamp. After open cardiac massage and fluid resuscitation the patient soon developed a stable blood pressure and cardiac rhythm. Total coding time was 6 minutes. The right atrial laceration was repaired with 3-0 polypropylene. Other intraoperative findings included contusions to the thymus and middle lobe of the right lung as well as extensive retroperitoneal edema. No intraabdominal causes for her ascites could be detected such as liver or metastatic disease.

Post-operatively, the patient demonstrated a mild verbal and motor deficit attributed to anoxic encephalopathy, as well as cortical blindness affecting her peripheral visual fields. She was discharged on post-operative day 12 to a rehabilitation hospital. She is currently attending college with gradual improvement in her peripheral vision. Her ascites subsided entirely.

DISCUSSION

The first description of rupture of the heart secondary to nonpenetrating trauma is variably credited to Borch in 1676 or Akenside in 1753.[3] Larrey, Napoleon's surgeon performed the first successful pericardial drainage for cardiac tamponade in 1829 and Rehn performed the first successful cardiorrhaphy for a penetrating wound in 1897.[3] It was not until 1954 that the first successful repair of a myocardial rupture following blunt trauma was reported by Desforges.[4]

Myocardial rupture is reported in approximately 5 percent of motor vehicle fatalities and comprises 0.5 percent of all admissions of patients with blunt trauma.[1,2] An autopsy series by Bright and Beck in 1935 demonstrated a similar frequency of involvement in each cardiac chamber with up to 30 percent surviving for up to an hour.[5] Right atrial rupture is the most common lesion found in survivors of blunt cardiac rupture. This is believed to be a result of the lower pressures encountered in the atria resulting in prolonged survival.

Several mechanisms have been proposed as factors in the etiology of myocardial rupture from blunt trauma. These include: 1) compression of the heart between the sternum and the vertebral column; 2) cardiac chamber penetration by sternal or rib fractures; 3) crushing of the abdomen and lower extremities with increased intracardiac pressure and preload, resulting in cardiac rupture; 4) delayed rupture following a myocardial contusion. Additionally, atrial rupture is thought to occur in late systole, when distension is maximal and the atrioventricular valves are closed.

In a review of the literature by Leavitt et al, in 1987 the following signs and symptoms of myocardial rupture were reported: hypotension (100 percent), elevated central venous pressure (95 percent), distant heart sounds (61 percent), distended neck veins (80 percent), tachycardia (89 percent), cyanosis of the upper torso (76 percent), unresponsive (74 percent), associated chest injuries (60 percent) and increased heart shadow on chest x-ray (59 percent).[6] The acute onset of ascites presented in this report has not been reported in the literature. The authors believe that the ascites occurred secondary to obstruction of the inferior vena cava resulting in increased venous pressure and liver congestion.

Several routine diagnostic modalities have been used in the patient suspected of myocardial rupture. However, most have limited clinical usefulness. The chest roentgenogram may show a normal cardiac silhouette and an electrocardiogram may demonstrate only nonspecific changes. Pericardiocentesis has been limited as a diagnostic tool secondary to its false negative rate of 25 percent,[7] although it can be used for decompression of tamponade as a therapeutic maneuver. Echocardiography may be useful, however, it is usually not readily available and may delay therapy. Ultrasonography, as utilized in this case, provides a rapid and accurate assessment of the pericardium as well as the abdomen, and can be performed in the trauma unit by properly trained trauma surgeons. Despite the variable utility of these modalities, the diagnosis of myocardial rupture requires a high index of suspicion and should be suspected in any patient with chest trauma who presents with hypotension out of proportion to the amount of blood loss.

This case represents the first reported finding of acute ascites in association with myocardial rupture. With the increasing utilization of ultrasonography in the evaluation of the multiple trauma patient, an interesting diagnostic dilemma arises when free fluid is found in the abdomen of the patient suspected of having myocardial rupture. In our patient, we elected to perform laparotomy first because of the suspicion of severe intraabdominal hemorrhage. However, paracentesis or diagnostic peritoneal lavage might have been used to determine whether the fluid was a result of hemorrhage or acute ascites.

Surgical therapy is directed at rapid repair. A left anterior thoracotomy performed in the trauma suite is advocated for the patient in extremis.

ATRIAL RUPTURE AND ASCITES

continued from page 7

However, in the stable patient, a median sternotomy in the operating room provides the best operative exposure. The surgical field should be prepped prior to induction of anesthesia due to the possibility of cardiac arrest upon induction. Bleeding can be controlled initially with digital pressure followed by application of a vascular clamp. The rupture can then be oversewn or reinforced with pledgeted sutures. Cardiopulmonary bypass is rarely needed.

The lethality of blunt rupture of a cardiac chamber is the result of exsanguination and/or cardiac tamponade. Mortality following myocardial rupture is high. Mattox et al[8] reported an 85 percent mortality in 13 cases and Shorr et al[9] reported a 100 percent mortality in 14 cases. However, Fulda et al reported survival of 23 patients (26 percent) with isolated atrial tear following blunt chest trauma.[10]

CONCLUSION

Rupture of the myocardium is associated with a high mortality rate. Prompt diagnosis and surgical therapy is required if survival is to be optimized. With the evolution of regional trauma systems it can be expected that a greater number of these patients will present with the potential for survival. We report a case of myocardial rupture following a horse kick to the chest. This represents a rare etiology as most reported cases involve motor vehicle crashes. The acute onset of ascites is an unusual finding in this case and has not been reported in the literature. The ascites was discovered using ultrasonography, which is routine in our trauma unit. Ultrasonography allows rapid evaluation of the pericardium and abdomen. Addition of this tool to the armamentarium of the trauma surgeon can lead to expeditious surgical therapy, which must be accomplished if survival from myocardial rupture is to occur.

This article was submitted for publication in June 1997. At that time, Dr. Green was a resident in general surgery at the University of Kansas School of Medicine – Wichita in the Department of Surgery and Dr. Chang was a Professor at the University of Kansas School of Medicine – Wichita in the Department of Surgery.

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Acute megakaryoblastic leukemia: a common presentation for an uncommon disease

Roy R Danks, DO and James V Rider, DO

A PREVIOUSLY HEALTHY 49 YEAR-OLD MALE PRESENTED TO OUR CLINIC WITH THE CHIEF complaint of fever up to 102°F for the preceding twenty-six days, poorly controlled with antipyretics and two rounds of antibiotics. The patient had initially been seen one month prior to this presentation with an apparent skin infection thought to have been initiated after a minor water skiing accident. The patient was injured when his leg was caught in the ski rope with a resulting abrasion. The patient was also experiencing fever, fatigue and malaise. An antibiotic suitable for skin infections was prescribed and appropriate follow-up recommended.

There was a history of travel outside of the U.S., to Mexico, one year prior to presentation. During this trip the patient became ill with apparent gastroenteritis. He suffered from severe abdominal pain, vomiting and diarrhea. This illness was successfully treated with antibiotics. There was no history of tick bites, previous malignancy or risk factors for HIV.

Twelve days after the most recent visit, the patient returned to the clinic, again complaining of fever as well as a cough. A short course of antibiotics was prescribed for apparent bronchitis and a complete blood count and blood chemistry was obtained. The CBC was unremarkable, but the patient's liver function tests (AST and ALT) were notably elevated.

Ten days passed and the patient returned, this time with an improved cough but with continuing fever: he noted the fever to rise during the night and fall precipitously during the day. Indeed, documentation of a fever was never accomplished in the clinic up to this point.

A repeat CBC again revealed a normal white cell count, but anemia was noted. Additionally, an ESR was obtained which was significantly elevated. The patient was sent home on antipyretics and instructed to immediately return if his temperature increased.

Four days later the patient returned with a fever of 101.6°F and he was admitted to the hospital. By this time the patient had suffered a 5 pound (2.3 kg) weight loss.

Infectious disease consultation was obtained and the patient was again thoroughly examined for a source of infection. However, blood cultures for bacteria and serum antibodies for significant viruses were unremarkable. Febrile agglutinins and antinuclear antibody serologies were normal. The only meaningful lab values noted were the aforementioned elevated ESR

ACUTE MEGAKARYOBLASTIC LEUKEMIA

Continued from page 9

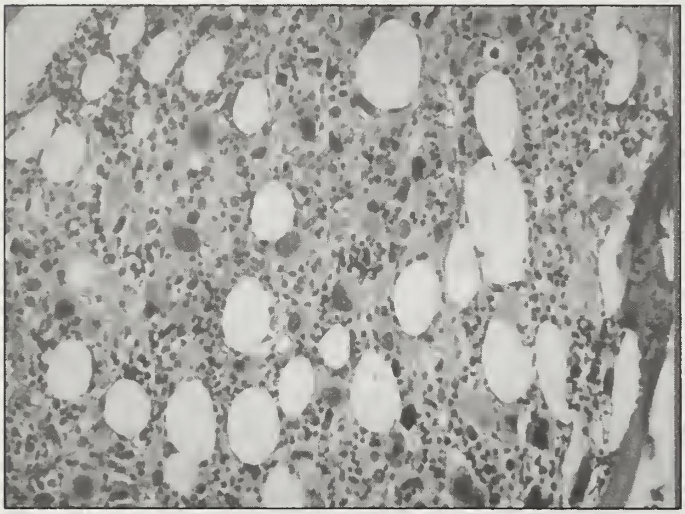

Figure 1: Hypercellular marrow with a marked increase in the number of megakaryocytes. Many have a giant cell appearance or show marked nuclear hyperchromatism. (Bone marrow: magnification x 100)

and thrombocytopenia. The patient denied any bleeding diatheses.

By now the patient was having fevers of over 103°F and a persistent cough, largely unrelieved by prescription cough suppressants. Chest x-ray and CT revealed no masses or infiltrates. With neither an obvious nor occult nidus for infection, a bone marrow biopsy was performed.

The bone marrow biopsy and smears revealed a significant increase in the number of megakaryocytes, many of which appeared to be dysplastic (Figure 1). The peripheral smear, however, was devoid of blast forms.

A tentative diagnosis of acute Megakaryoblastic leukemia was made. Samples of the bone marrow sent for flow cytometry, however, contained less than 30 percent dysplastic forms and the diagnosis was revised to that of a myelodysplastic syndrome (MDS).

A repeat bone marrow biopsy of the opposite hip revealed even fewer dysplastic forms, thus confirming a MDS. A reticulin stain performed on the bone marrow sample revealed increase uptake, indicating fibrosis. Myelofibrosis is almost invariable noted in patients with megakaryoblastic leukemia as is the lack of blast forms in the peripheral smear.

A hematology consultation was obtained. By the 5th hospital day the patient's fever was well controlled with indomethacin and he was discharged. His cough continued and no source for the cough could be identified.

The patient returned to the hospital 11 days after discharge with an unremitting cough and significant pallor. He was found to be notably leukopenic and anemic, requiring transfusion of four units of packed RBC's. In addition to this, there were also some blasts in the peripheral smear. He was subsequently discharged with an improved white blood cell and hemoglobin count and with notable improvement in the cough.

The patient was initially referred to a nearby tertiary cancer treatment facility for further evaluation. Bone marrow samples taken at the facility confirmed the diagnosis of acute Megakaryoblastic leukemia.

The patient is presently undergoing chemotherapy at a regional cancer treatment facility. Bone marrow transplantation is being considered.

DISCUSSION

Acute Megakaryoblastic leukemia is a rare phenotype of acute myelogenous leukemia (AML), accounting for less than 5 percent of all cases of AML.[1] It was in 1963 that Szur and Lewis reported a series of patients with pancytopenia, low numbers of blast cells and significant myelofibrosis.[2] They gave this disease the name: malignant myelosclerosis.

The specific phenotype was later discerned using histochemistry for platelet peroxidase and transmission electron microscopy.[1] Presently, antibodies to glycoprotein Ib, IIb/IIIa, or IIIa, as well as to von Willebrand factor are used to identify immature megakaryocytes.

This leukemia afflicts children with Down syndrome more often than karyotypically normal children and adults. In adults, the disease usually strikes those who have undergone previous chemotherapy or who have had radiation exposure.

Acute Megakaryoblastic leukemia has the French-American-British (FAB) classification of M7. The FAB group has subdivided acute myelogenous leukemias into eight subtypes. Designated MO through M7, AML subtypes are based on morphology and histochemistry. Additionally, the acute lymphoid leukemias (adult and childhood variants and the Burkitt-like variant) are classified as L1-L3, respectively.[3] The non-lymphoid classifications of AML were initially proposed by Galton and Dacie[4] who based their classifications on phenotypic variations, specifically, seven morphologic variants (i.e.: erythroid, monocytic or granulocytic). This system was later modified and accepted using the current designations of M1 though M7. M0 was subsequently added to define minimally differentiated AML.

It is not necessary for the primary care physician to be able to accurately classify each of his or her leukemia patients into the FAB system. However, it is important to understand the necessity of the system and how it applies to treatment and to some degree the prognostic indications, just as one should understand the TMN system of solid cancers.

Myelodysplastic syndromes, such as in this patient's initial presentation, are best defined as a group of disorders of clonal stem cells which have maturation defects. These cells are ineffective at hematopoiesis and are at an increased risk of transformation to acute myeloblastic leukemias.[5]

We submit the case of a previously healthy, 49 year old male who presented with symptoms of what was initially thought to be that of a self-limited infectious process. The patient was subsequently diagnosed with a myclodysplastic syndrome (MDS) most consistent with an early acute Megakaryoblastic leukemia. (FAB classification of M7).

Subsequent chromosomal analysis confirmed that the malignant cells were congruous with a cytogenetic subgroup of AML which usually presents with an MDS phase.

Results of the cytogenetic testing of our patient's leukemic cells revealed multiple additions and deletions on chromosomes 4, 5, 9, 12, 15, 17 and 20. Additionally, the complete loss of chromosomes 7 and 13 was noted. Multiple clonal anomalies are common in this type of leukemia.

Retrospectively, our patient presented as do many early leukemics specifically with malaise, fever, fatigue, weakness and weight loss. Thorough examination and subsequent hospitalization led to the diagnosis of AML.

This case illustrates several key points for the primary care physician. First, it is important to follow-up with patients and follow through with their initial complaints even when, as in our patient, the key feature of the complaint (i.e. fever) cannot be documented in the clinic setting. While the possibility of factitious fever was briefly entertained abnormal lab results pushed us to look for a veritable cause.

Secondly, the patient was not simply passed off to the specialists for evaluation. As primary care physicians, we should ensure that the patient is evaluated by the specialist, but we should also be involved in the continued search and subsequent treatment of the disease.

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A comparative table of non-steroidal anti-inflammatory drugs 1998

Robert G Godfrey, MD, FACP

NON-STEROIDAL ANTI-INFLAMMATORY drugs (NSAIDs) are probably the most prescribed group of drugs in the world not to mention the non-prescription use of aspirin and others. It is certainly important for any physician who treats pain or any rheumatic diseases to be quite familiar with these drugs and to have ready sources of information about them for detailed or quick review. The Physicians Desk Reference (PDR)[1] serves well for the former, but quick references are less available and usually not at all detailed.

About 20 years ago, a friend and colleague of mine at KUMC designed a table of the then 5 or 6 NSAIDs. I borrowed the idea and began expanding it by adding new information and NSAIDs as they became available over the succeeding years. I have found it a valuable teaching tool over many years and still get requests for updated versions of it. For these reasons I decided to bring the table up to date and to submit it for publication to make it available to all of my former students and others who may find it useful. The table, abbreviations and footnotes can be photocopied, arranged sequentially or pasted up to form a single poster to hang on the wall or other convenient place in the physician's sample and medication room to be readily available when selecting NSAIDs for patients. In the final preparation of the table, I excluded a few NSAIDs not much used generally, combination drugs or any not for long-term therapy including NSAID-type analgesics, and parenteral forms.

I sent copies of the 1991 and 1994 tables to each of the drug companies represented in the table and to the FDA for comments and criticisms. Some of the companies and the FDA were extremely helpful; some chose not to respond.

MATERIALS AND METHODS: DATA SOURCES

Entries in the table without specific references are almost entirely from the manufacturers' formal drug descriptions used for package inserts and for listing in the PDR. Most of the adverse effects (AEs) data came from highly variable pre-marketing studies and hardly represent the "real world."[2,3] These data must be interpreted with much caution.

Since books are not referenced in the MEDLINE database, several major general and specific book sources are included in my references. Day wrote a good article evaluating in considerable detail some of these and other desktop reference texts available on drugs and including the NSAIDs.[4]

I have made many searches through MEDLINE for general and specific information; although, no one could or would read all the nearly 15,000 references on NSAIDs published in English in only the last 5 years.

RESULTS: DESCRIPTION OF THE TABLE AND ITS ELEMENTS

The NSAID table consists of a left hand column (stub) containing the categories and elements listed in the table. Each drug is listed in a column for as many of the categories as possible. Question marks (?) are used in places where data are especially questionable or not found in my searches.

There is no category for "efficacy" since NSAIDs have much more in common than they do differences in that regard. Differences that do exist are mostly in individual patient response (so-called responder versus non-responder groups).[2,5-7]

CATEGORY INFORMATION

Categories include: Name, structure, indications, pharmacology, drug interactions, and adverse effects. Some of these categories need further explanation and clarification:

Indications

Unless otherwise noted, these are the formal indications for the drugs in the United States. Most of these drugs are commonly or even consistently used for other indications where medical judgment and experience seem to justify it.

Drug Interactions

This is a difficult section. In most cases many or most of the NSAIDs have or may have most of the listed interactions; however, the exceptions are the main reason for this category. Item 6., "Other", contains important general or otherwise unlisted drug interactions for individual drugs, and some that are simply interesting. Drug interactions that are listed as "**CONTRAINDICATED!!**" are not necessarily formally contraindicated (i.e., listed under "contraindications" in the manufacturer's drug description) but rather they are relatively and medically contraindicated unless there is overpowering reason to use them together. Even then, they should be used with great caution.

Adverse Effects (AEs)

The drug manufacturers' product descriptions were the sole source of these data. I derived the "average percentages" used in the table from the combination of the various individual AE percentages for each system listed. For example, dyspepsia, abdominal pain, bloating, diarrhea, etc., were all considered gastrointestinal (GI) system Aes of mild- moderate severity. Where given, the actual percentage was used. AEs listed as 3-9 percent were entered at 6 percent each, 2 percent for each of those listed as 1-3 percent, and 1/2 percent for those <1 percent.

These percentages for each drug were added to give the total AE percentage for each system (e.g., GI mild-moderate; GI, severe; skin; CV; CNS, etc.) The average (mean) for all drugs for each system was determined and the average percentage range was considered ±50 percent of the mean. AEs for drugs falling above or below this "average percentage range" were listed as "High" or "Low" respectively. Drug AE percentages falling within the range were left blank on the table. This crude manipulation of these imprecise data, while systematic, really has little scientific merit. Still, it does put the data published in the PDR in very rough comparative form.

There are a host of reasons why comparisons between pre-marketing studies are fraught with potential errors and biases that can make AEs either higher or lower than their true incidence.[8] Enormous changes in drug study methodology over the years have resulted in many more AEs being detected now an probably account for some of the higher values reported for newer drugs while clinical experience has shown them to have a relatively good safety profile. Not surprisingly, estimates of the relative toxicity of the NSAIDs and their rank order for toxicity based upon pre-marketing data are quite different from each other and from my table as well.[2,9,10]

Despite all this, these pre-marketing AE data can serve as a starting point for the clinician when selecting an NSAID under varying circumstances or patient requirements until more reliable information becomes available.[3,10] Fries and colleagues[11] used data accumulated over the years on rheumatoid arthritis patients by the Arthritis Rheumatism and Aging Medical Information System (ARAMIS) data bank to determine the relative toxicity for individual AEs as well as an overall, combined toxicity index for each of 11 NSAIDs. Even more recently, they used newer, expanded data from a larger number of centers and revised the statistical methodology to produce a "new" Stanford Toxicity Index including a 12th NSAID, diclofenac.[12] I used these newest toxicity index values in the table.

NSAIDs IN THE USA

Continued from page 13

One surprising and potentially important finding in both their 1991 and 1994 studies was that aspirin had the least overall toxicity of all other NSAIDs studied. A follow-up paper[13] on this found aspirin's superiority was mainly the result of dosage differences for aspirin and the comparison NSAIDs between pre-clinical studies and actual use. During studies small doses of NSAID and large doses of aspirin were used. In actual use this is reversed using large doses of NSAID and small doses of aspirin. This finding needs further study since rheumatologist are moving away from large, anti-inflammatory doses of NSAIDs, and aspirin as it is actually used may be safer than my table would indicate and it is certainly much cheaper than any of the others.

Footnotes

There are many of these because limitations of space in the table require nearly all comments and clarifications to become footnotes. They are arranged where possible in sequential order for each drug (column), and where appropriate begin with the drug name so most footnotes for any given drug can be quickly scanned with a single reference to this section. The table can be used without the footnotes, but with considerable loss of important but usually not essential detail.

DISCUSSION AND CONCLUSIONS

A table is an ideal way to present a large amount of data in a small amount of space with the recognized limitation on the amount of detail that can be included. The volume of data on the NSAIDs has become staggering and seems to increase exponentially each year. Clearly, all of this information cannot be considered in any table and hardly in any single book.

This table, while not nearly comprehensive, should meet its objective of providing fairly quickly most of the essential and even some interesting and curious information on available NSAIDs. It gives the practicing physician and other health care professionals this information in a format that allows comparisons between the various NSAIDs to be made with relative ease. Because of the limitations previously noted, no one should use this table for promotional purposes nor should anyone presume it represents an officially sanctioned instrument by listed drug manufacturers, the FDA or other regulatory agencies.

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS) USA 1998

This table is not comprehensive and in some instances is controversial. See package inserts, text and references for added details

NAME		**ASPIRIN**	**SALSALATE**	**DIFLUNISAL**	**PHENYLBUTAZONE**	
(⊗ = generic available) Manufacturer		acetylsalicylic acid many	Disalcid®⊗ Riker	Dolobid®⊗ Merck & Co.	generic only ⊗ none listed in PDR	
STRUCTURE (Class)		SALICYLATE OR DERIVATIVE			PYRAZOLONE	
INDICATIONS		RA, OA, AS, JRA, inflammation, pain, fever, etc.	RA, OA, AS, & related rheumatic disorders	RA, OA, pain	acute gout and briefly for others (k) NOT a primary drug §	
DOSAGE						
1. Size(s), mg. and forms	1.	80-1000 (plain, buffered, SR, EC)	500, 750	250, 500	100	1.
2. Initial mg. (adult)/d	2.	2000-2500	2000	1000	100-400 (maint.100-200)	2.
3. Maximum mg. (adult)/d	3.	4000-6000	4000	1500	200-400 (k)	3.
4. Cost / mo. at max. dose (ave wholesale, name brand)	4.	$6.37 (plain)	$90.63	$115.58	$20.00 est.(?)	4.
PHARMACOLOGY						
1. Half-life (hr.)	1.	2-15	4-16	8-12	40-80	1.
2. Metabolism	2.	liver	liver	liver	liver	2.
3. Excretion	3.	urine	urine	urine	urine 60%, feces 27%	3.
4. Prostaglandin inhib. (a)	4.	+++	No? **	Yes	+	4.
5.↑↓ platelet aggregation	5.	YES: irreversible	No **	YES BUT REVERSIBLE		5.
6. COX-1/COX-2 ratio (b)	6.	?	?	?	0.21	6.
7. Other:	7.					7.
DRUG INTERACTIONS		ASPIRIN	SALSALATE	DIFLUNISAL	PHENYLBUTAZONE	
1. ↑ Warfarin (c)	1.	**YES!!**	Yes (c)	Yes	**YES!!**	1.
2. ↑ Sulfonylureas	2.	Yes	Yes	No	**YES!!**	2.
3. ↑ Methotrexate * (d)	3.	YES!	YES!	Yes	**YES!!**	3.
4. ↓ Anti-hypertensives *	4.	Yes	?	Yes but ↑ HCTZ	YES!	4.
5. Probenecid ↑	5.	YES!	Yes	Yes	YES!	5.
6. Other:	6.	**acetazolamide!!**	other salicylates !	acetaminophen ! (j)	**phenytoin!!**	6.
All or most NSAIDs may: ↑ Lithium * (e) Cholestyramine ↓* ↓ Potassium-sparing diuretics* ↑ digoxin * Cyclosporine (↑ renal risk)*		ASA ↓ levels of other NSAIDs but ? CS. NRM of other NSAIDs. No ↑ lithium	Competes for binding sites with thiopental, thyroxine phenytoin, and sulfonamides. ↓ serum T_4 > 40%		**tolbutamide!!** ↑ lithium ! Interferes with some thyroid tests. (I !)	
ADVERSE EFFECTS (range =±50% of average%)		(BLANK SPACES ARE WITHIN AVERAGE PERCENTAGE RANGE)				
1. GI mild-mod.: 20-62%	1.	High?†	Low?†			1.
2. GI severe: 1-4% (*!*)	2.	High? (plain)†	Low?†	*!*	*!*	2.
3. Skin: 5-14%	3.	?†	?†			3.
4. CNS: 11-32%	4.	High?†	High?†		Low	4.
5. CV (+edema) 3-9%	5.	?†	?†	Low	High	5.
6. Renal: 2-6%	6.	?†	?†		High	6.
7. Hepatic: 1-3%	7.	?†	?†		Low	7.
8. Hematologic: 2-7%	8.	?†	?†	Low	High (k)	8.
Other (not %)						
9. Pregnancy (category)(l)	9.	**(X!!)**	(C) NRM (**!!**)	(C) NRM (**!!**)	(C) NRM (**!!**)	9.
10. Stanford Toxicity Index(f)	10.	1.77	2.00	?	?	10.
11 Other	11.	Reye's Syndrome ! (h)	Reye's Syndrome ! May be ↓ risk with ASA allergy & triad asthma.(g) (h)	Reye's Syndrome !	§Severe or fatal bone marrow toxicity in 2/100,000.	11.
All are **CONTRAINDICATED!!** with Hx of allergy or hypersensitivity reaction to that drug and with ASA (triad asthma) allergy(g)						

LEGEND

!! = **CONTRAINDICATED!!**	? = Questionable, possible, or no data	→ = forms , becomes or goes to
YES!! = Yes and **CONTRAINDICATED!!**	Yes? = Probably yes	* = May be true of all or most NSAIDs
! = Caution	No? = Probably no	** = May be true of all non-acetylated salicylates
YES! = Yes and caution	?CS = ? Clinical Significance	† = Pre-1938 drug; no good data
MFG! = Caution by Manufacturer	↑ = increase (-es,-ed,-ing)	⊗ = Generic Available
NRM = Not recommended by Manufacturer	↓ = decrease (-es,-ed,-ing)	

! = FDA required labeling on all post-1938 NSAIDs (except nabumetone; see footnote [q]): Severe and/or fatal GI toxicity = 1% after 3-6 mo. and 2-4% after 1 yr. May occur without warning symptoms or history of GI disease. (Not included in table percentages.)

NSAIDs IN THE USA

Continued from page 15

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs) USA 1998

This table is not comprehensive and in some instances is controversial. See package inserts, text and references for added details

NAME.	**INDOMETHACIN**	**SULINDAC**	**DICLOFENAC**	**TOLMETIN**	
(⊗ = generic available) Manufacturer	Indocin®⊗ Merck & Co.	Clinoril®⊗ Merck & Co.	Voltaren®⊗ Cataflam® Ciba-Geneva	Tolectin®⊗ McNeil	
STRUCTURE (Class)	ACETIC (indole)	ACID (indene)	DERIVATIVE (phenylacetic acid)	(pyrrole)	
INDICATIONS	RA, OA, AS, gout, bursitis, acute painful shoulder, tendinitis	RA, OA, AS, gout, acute painful shoulder	RA, OA, AS	RA, OA, JRA	
DOSAGE					
1. Size(s), mg. and forms 1.	25, 50, 75 (SR, susp, supp, IV)		25, 50, 75, 100 SR Cataflam= K^+ salt	200, 400, 600	1.
2. Initial mg. (adult) 2.	75	300	75	1200	2.
3. Maximum mg. (adult) 3.	200	400	200	1800 (child:20-30mg/kg/d)	3.
4. Cost /mo. at max. dose 4. (ave. wholesale, name brand)	$113.88	$80.19	$141.16	$125.69	4.
PHARMACOLOGY					
1. Half-life (hr.) 1.	3-11	16	2	3-5	1.
2. Metabolism 2.	liver, EHC	prodrug- liver EHC	liver, ?EHC	liver	2.
3. Excretion 3.	urine 60% feces 33%	urine 50%feces 25%(n)	urine 60%feces 25%(o)	urine	3.
4. Prostaglandin inhib. (a) 4.	+++	++	+++	++	4.
5. ↓ platelet aggregation 5.	YES	BUT	REVERSIBLE		5.
6. COX-1/COX-2 ratio (b) 6.	0.02	0.04	0.15	?	6.
7. Other: 7.					7.
DRUG INTERACTIONS	INDOMETHACIN	SULINDAC	DICLOFENAC	TOLMETIN SODIUM	
1. ↑ Warfarin (c) 1.	NO BUT MAY INCREASE BLEEDING (MFG!) (c)				1.
2. ↑ Sulfonylureas 2.	?	No	No	No	2.
3. ↑ Methotrexate * (d) 3.	YES !	YES!	Yes	Yes?	3.
4. ↓ Anti-hypertensives * 4.	Yes	Yes	Yes	Yes	4.
5. Probenecid ↑ 5.	YES !	Yes ?CS	YES!	Yes	5.
6. Other: 6.	**diflunisal II**	no ↑ lithium?	lithium !	false + proteinuria	6.
All or most NSAIDs may: ↑ Lithium * (e) Cholestyramine ↓* ↓ Potassium-sparing diuretics* ↑ digoxin * Cyclosporine (↑ renal risk)*	**triamterene II** ↑ aminoglycosides, may mask infection, ASA NRM, lithium ! (I !)	no↓ thiazides	↑ digoxin ↑ cyclosporine ! ASA ↓ ?CS NRM **Voltaren+CataflamII** (r)		
ADVERSE EFFECTS (range =±50% of average%)	(BLANK SPACES ARE WITHIN AVERAGE PERCENTAGE RANGE)				
1. GI mild-mod.: 20-62% 1.					1.
2. GI severe: 1-4% (*!*) 2.	*!*	*!*	High *!*	*!*	2.
3. Skin: 5-14% 3.	Low		Low	Low	3.
4. CNS: 11-32% 4.	High (m)	(m)			4.
5. CV (+edema) 3-9% 5.			Low	High	5.
6. Renal: 2-6% 6.		(n)	(o)		6.
7. Hepatic: 1-3% 7.			High (p)		7.
8. Hematologic: 2-7% 8.				Low	8.
Other (not %)					
9. Pregnancy (category)(i) 9.	NRM (iii)	NRM (iii)	(B) NRM (iii)	NRM (iii)	9.
10. Stanford Toxicity Index(f) 10	5.15	3.92	4.48	4.13	10.
11. Other: 11.					11.
All are **CONTRAINDICATEDII** with Hx of allergy or hypersensitivity reaction to that drug] and with ASA (triad asthma) allergy(g)					

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS) USA 1998

This table is not comprehensive and in some instances is controversial. See package inserts, text and references for added details

NAME.		ETODOLAC	NABUMETONE	IBUPROFEN	NAPROXEN	
(⊗= generic available) Manufacturer		Lodine®⊗ Wyeth-Ayerst	Relafen® SmithKline Beecham	Motrin®⊗ Pharmacia & Upjohn	Naprosyn®⊗ Naprelan® Roche	
STRUCTURE (Class)		ACETIC ACID DERIVATIVE (indole)	(napthylalkalone)	PROPIONIC ACID DERIVATIVE		
INDICATIONS		RA, OA, pain	RA, OA	RA, OA, pain, fever, dysmenorrhea	RA, OA, JRA, gout, tendinitis, bursitis, pain, dysmenorrhea	
DOSAGE						
1. Size(s), Mg. and forms	1.	200, 300, 400, 500 SR	500, 750	200,300,400 600,800	250, 375, 500, EC, SR Susp.(25 mg/ml)	1.
2. Initial Mg. (adult)/d	2.	200 pain, 800 OA,RA	1000	1200	500	2.
3. Maximum Mg. (adult)/d	3.	1200	2000	3200	1500	3.
4. Cost/mo. at max. dose (Ave wholesale, name brand)	4.	$132.37	$138.54	$48.58	$80.11	4.
PHARMACOLOGY						
1. Half-life (hr.)	1.	7.3 ± 4.0	22.5-29.8	1.2-2	13	1.
2. Metabolism	2.	liver	prodrug then liver	liver	liver	2.
3. Excretion	3.	urine 72% feces 16%	urine 80% feces 9%	urine	urine	3.
4. Prostaglandin inhib.(a)	4.	Yes	Yes	+	+++	4.
5. ↓ platelet aggregation	5.	?	No	YES BUT REVERSIBLE		5.
6. COX-1/COX-2 ratio (b)	6.	1.25	0.67	0.30	0.25	6.
7. Other:	7.		No effect on bleeding time.			7.
DRUG INTERACTIONS		ETODOLAC	NABUMETONE	IBUPROFEN	NAPROXEN	
1. ↑ Warfarin (c)	1.	NO BUT	MFG! (c)	NO BUT MAY INCREASE BLEEDING (MFG!) (c)		1.
2. ↑ Sulfonylureas	2.	No	?	No	Yes ?	2.
3. ↑ Methotrexate * (d)	3.	?	?	Yes	YES !	3.
4. ↓ Anti-hypertensives *	4.	No	?	Yes	Yes ?	4.
5. Probenecid ↑	5.	No	?	No	Yes	5.
6. Other:	6.	Cyclosporine !		Lithium !	**Anaprox®!!**, **Aleve®!!**	6.
All or most NSAIDs may: ↑ Lithium * (e) Cholestyramine ↓ * ↓ Potassium-sparing diuretics* ↑ digoxin * Cyclosporine (↑ renal risk)*		false + ketone (dipstick) ↓ uric acid 1-2 mg/dl ASA NRM PBZ NRM		false+ test for cannabis	and **Naprelan®!!** (r) lithium !, hydantoin !, False + urine test for 17-ketos. & 5-HIAA, false + test for cannabis and pseudo-porphyria.	
ADVERSE EFFECTS (range =±50% of average%)		(BLANK SPACES ARE WITHIN AVERAGE PERCENTAGE RANGE)				
1. GI mild-mod.: 20-62%	1.		High			1.
2. GI severe: 1-4% (*!*)	2.	Low*!*	Low (q)	*!*	*!*	2.
3. Skin: 5-14%	3.	Low	High		High	3.
4. CNS: 11-32%	4.		High	(m)	High	4.
5. CV (+edema) 3-9%	5.	Low			High	5.
6. Renal: 2-6%	6.		Low			6.
7. Hepatic: 1-3%	7.		Low		Low	7.
8. Hematologic: 2-7%	8.	Low		Low		8.
Other (not %)						
9. Pregnancy (category)(l)	9.	(C) NRM **(i!!)**	(C) NRM **(i!!)**	(B) NRM **(i!!)**	(B) NRM **(i!!)**	9.
10. Stanford Toxicity Index (f)	10.	?	?	2.68	3.01	10.
11. Other:	11.					11.
All are **CONTRAINDICATED!!** with Hx of allergy or hypersensitivity reaction to that drug] and with ASA (triad asthma) allergy(g)						

LEGEND

!! = **CONTRAINDICATED!!**
YES!! = Yes and **CONTRAINDICATED!!**
! = Caution
YES! = Yes and caution
MFG! = Caution by Manufacturer
NRM = Not recommended by Manufacturer

? = Possible or no data
Yes? = Probably yes
No? = Probably no
?CS = ? Clinical Significance
↑ = increase (-es,-ed,-ing)
↓ = decrease (-es,-ed,-ing)

→ = forms , becomes or goes to
* = May be true of all or most NSAIDs
** = May be true of all non-acetylated salicylates
† = Pre-1938 drug; no good data
⊗ = Generic Available

! = FDA required labeling on all post-1938 NSAIDs (except nabumetone; see footnote [q]): Severe and/or fatal GI toxicity = 1% after 3-6 mo. and 2-4% after 1 yr. May occur without warning symptoms or history of GI disease. (Not included in table percentages.)

NSAIDS IN THE USA

Continued from page 17

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS) USA 1998

This table is not comprehensive and in some instances is controversial. See package inserts, text and references for added details

NAME.		**FENOPROFEN**	**KETOPROFEN**	**OXAPROZIN**	**FLURBIPROFEN**	
(⊗= generic available) Manufacturer		Nalfon®⊗ Dista	Orudis®⊗ Oruvail® Wyeth-Ayerst	Daypro® Searle	Generic only (was Ansaid®) several	
STRUCTURE (Class)		PROPIONIC ACID DERIVATIVE				
INDICATIONS		RA, OA, pain	RA, OA, AS, pain, dysmenorrhea..	RA, OA	RA, OA	
DOSAGE						
1. Size(s), mg. and forms	1.	200, 300, 600	25, 50, 75, 100, 150, 200 SR	600	50, 100	1.
2. Initial mg. (adult)/d	2.	1200 (800 for pain)	150 (pain: 75-100)	600-1200	200-300	2.
3. Maximum mg. (adult)/d	3.	3200	300	1800 or 26 mg/kg/d	300	3.
4. Cost/mo. at max. dose (ave. wholesale, name brand)	4.	$176.70	$148.90	$123.84	$131.98	4.
PHARMACOLOGY						
1. Half-life (hr.)	1.	3	2-4	40	3-9	1.
2. Metabolism	2.	liver	liver (EHC)	liver	liver	2.
3. Excretion	3.	urine	urine 60%	urine	urine	3.
4. Prostaglandin inhib.(a)	4.	++	+++++	++	++++	4.
5. ↓ platelet aggregation	5.	YES	BUT	REVERSIBLE		5.
6. COX-1/COX-2 ratio (b)	6.	?	0.55	?	0.20	6.
7. Other:	7.		↓ leukotrienes		↓ WBC migration	7.
DRUG INTERACTIONS		FENOPROFEN	KETOPROFEN	OXAPROZIN	FLURBIPROFEN	
1. ↑ Warfarin (c)	1.	NO BUT MAY INCREASE	BLEEDING (MFG!)	YES !	YES !	1.
2. ↑ Sulfonylureas	2.	Yes	Yes	YES !	Yes?	2.
3. ↑ Methotrexate * (d)	3.	Yes	**YES!!**	Yes ?CS	Yes ?CS	3.
4. ↓ Anti-hypertensives *	4.	Yes	Yes	Yes ?	Yes	4.
5. Probenecid ↑	5.	?	**YES!!**	Yes	Yes?	5.
6. Other:	6.	false ↑T3 test	lithium !		ASA↓ up to 50% NRM	6.
All or most NSAIDs may: ↑ Lithium * (e) Cholestyramine ↓* ↓ Potassium-sparing diuretics* ↑ digoxin * Cyclosporine (↑ renal risk)*		hydantoin ! phenobarbital ! ASA NRM	ASA NRM		cimetidine !	
ADVERSE EFFECTS (range =±50% of average%)		(BLANK SPACES ARE WITHIN AVERAGE PERCENTAGE RANGE)				
1. GI mild-mod.: 20-62%	1.					1.
2. GI severe: 1-4% (*!*)	2.	Low *I*	*!*	Low*!*	*!*	2.
3. Skin: 5-14%	3.		High			3.
4. CNS: 11-32%	4.			Low		4.
5. CV (+edema) 3-9%	5.	High		Low		5.
6. Renal: 2-6%	6.	(s)			High	6.
7. Hepatic: 1-3%	7.		Low	Low	Low	7.
8. Hematologic: 2-7%	8.			Low		8.
Other (not %)						
9. Pregnancy (category)(i)	9.	NRM (ill)	(B) NRM (i!!)	NRM (i!!)	(B) NRM (ill)	9.
10. Stanford Toxicity Index(f)	10.	4.25	4.69	?	?	10.
11. Other:	11.					11.
All are **CONTRAINDICATED!!** with Hx of allergy or hypersensitivity reaction to that drug and with ASA (triad asthma) allergy(g)						

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs) USA 1998

This table is not comprehensive and in some instances is controversial. See package inserts, text and references for added details

NAME	PIROXICAM	MECLOFENAMATE	
(⊗= generic available) Manufacturer	Feldene®⊗ Pfizer	Generic only (was Meclomen®) Mylan	
STRUCTURE (Class)	OXICAM	FENAMATE	
INDICATIONS	RA, OA	RA, OA, pain, heavy menstrual blood loss, dysmenorrhea	
DOSAGE			
1. Size(s), mg. 1.	10, 20	50, 100	1.
2. Initial mg. (adult)/d 2.	20	100	2.
3. Maximum mg. (adult)/d 3.	20	400	3.
4. Cost/mo. at max. dose (ave. wholesale, name brand) 4.	$84.49	$72.20	4.
PHARMACOLOGY			
1. Half-life (hr.) (basic drug) 1.	30-86	2-3.3	1.
2. Metabolism 2.	liver, ?EHC	liver, EHC	2.
3. Excretion 3.	urine 66% feces 33%	urine 66% feces 33%	3.
4. Prostaglandin inhib.(a) 4.	+++	++	4.
5. ↓ platelet aggregation 5.	YES BUT REVERSIBLE		5.
6. COX-1/COX-2 ratio (b) 6.	0.05	0.18	6.
7. Other: 7.			7.
DRUG INTERACTIONS	PIROXICAM	MECLOFENAMATE	
1. ↑ Warfarin (c) 1.	NO: may ↑ bleed. (MFG!)	YES !	1.
2. ↑ Sulfonylureas 2.	Yes ? CS	?	2.
3. ↑ Methotrexate * (d) 3.	Yes	Yes	3.
4. ↓ Anti-hypertensives * 4.	Yes?	Yes	4.
5. Probenecid ↑ 5.	Yes	Yes?	5.
6. Other: 6.	ASA ↓ up to 20% NRM	ASA NRM	6.
All or most NSAIDs may: ↑ Lithium * (e) Cholestyramine ↓* ↓ Potassium-sparing diuretics* ↑ digoxin * Cyclosporine (↑ renal risk)*			
ADVERSE EFFECTS (range =±50% of average%)	(BLANK SPACES = IN AVERAGE PERCENT RANGE)		
1. GI mild-mod.: 20-62% 1.		High (t)	1.
2. GI severe: 1-4% (*!*) 2.	*!*	High (t) *!*	2.
3. Skin: 5-14% 3.			3.
4. CNS: 11-32% 4.			4.
5. CV (+edema) 3-9% 5.		Low	5.
6. Renal: 2-6% 6.	High	Low	6.
7. Hepatic: 1-3% 7.		Low	7.
8. Hematologic: 2-7% 8.	High		8.
Other (not %)			
9. Pregnancy (category)(I) 9.	NRM (iii)	NRM (iii)	9.
10. Stanford Toxicity Index (f) 10.	3.97	5.94	10.
11. Other: 11.			11.
All are **CONTRAINDICATED!!** with Hx of allergy or hypersensitivity reaction to that drug] and with ASA (triad asthma) allergy(g)			

LEGEND

!! = **CONTRAINDICATED!!**
YES!! = Yes and **CONTRAINDICATED!!**
! = Caution
YES! = Yes and caution
MFG! = Caution by Manufacturer
NRM = Not recommended by Manufacturer

? = Possible or no data
Yes? = Probably yes
No? = Probably no
?CS = ? Clinical Significance
↑ = increase (-es,-ed,-ing)
↓ = decrease (-es,-ed,-ing)

→ = forms , becomes or goes to
* = May be true of all or most NSAIDs
** = May be true of all non-acetylated salicylates
† = Pre-1938 drug; no good data
⊗ = Generic Available

! = FDA required labeling on all post-1938 NSAIDs (except nabumetone; see footnote [q]). Severe and/or fatal GI toxicity = 1% after 3-6 mo. and 2-4% after 1 yr. May occur without warning symptoms or history of GI disease. (Not included in table percentages.)

NSAIDS IN THE USA

Continued from page 19

FOOTNOTES

(a) Pluses shown are from a study of relative prostaglandin inhibition potency of most NSAIDs.[14] Others are listed yes or no.

(b) Study in vitro of relative inhibition of cyclooxygenase (COX) types 1 and 2 (ratio of IC_{50} – COX-1/COX-2)[15] The higher the number, the more selective the inhibition of COX-2. It seems COX-1 is essential for GI, renal and other vital functions and COX-2 is mainly for inflammation. Theoretically, selective inhibition of COX-2 should decrease GI, renal and other toxicities, although this has not been established yet.

(c) The safest NSAIDs for use with warfarin are: ibuprofen, naproxen, tolmetin and non-acetylated salicylates. Nabumetone should be safe too and additionally has minimal effect on platelet aggregation and no effect on bleeding time.[16]

(d) Methotrexate (MTX): most problems with high doses. NSAIDs reduce tubular secretion of MTX and potentiate its toxicity. Renal clearance of MTX correlates with creatinine clearance so special caution should be exercised in the face of renal disease.[17]

(e) Lithium: all may increase lithium level except aspirin and probably sulindac.[18,19]

(f) Stanford Toxicity Index: [11,12] is a relative toxicity score for NSAIDs in RA. The lower the number, the less overall toxicity (see page 13).

(g) Aspirin and salsalate are pre-1938 drugs so are not subject to present more strict FDA regulations. They list only data from post-marketing studies and spontaneous reports. They are excluded in AE calculations and entries for them in the table are based only on these very limited data and are marked as questionable or unknown.

(h) Salsalate: salsalate and choline magnesium trisalicylate (Trilisate®) may be safer than others in aspirin allergy asthmatic patients,[20,21] however, anaphylactoid reactions have been reported for both.[22]

(i) Pregnancy: All are CONTRAINDICATED!! in the final few weeks before delivery. At this time they may prevent closure of ductus arteriosus and delay onset of labor. In all cases, caution is advised and no drug should be given unnecessarily during pregnancy. FDA categories (extremely simplified): A=safe, B=probably safe, C=uncertain safety, D= probably unsafe and X=contraindicated.

(j) Diflunisal: when used with acetaminophen increase acetaminophen level as much as 50 percent. Manufacturer's caution!

(k) Phenylbutazone: weekly blood count monitoring is recommended for prolonged use.

(l) Phenylbutazone: rare (2-6/100,000) but often fatal bone marrow toxicity limits chronic use of drug. Statistically significant agranulocytosis has also been reported for indomethacin and, to a lesser extent, others.[23,24]

(m) Indomethacin: high incidence of headache and psychopharmacologic effects. Not permitted by FAA for air traffic controllers. Ibuprofen and sulindac have reportedly precipitated psychoses too.[25]

(n) Sulindac: excreted as inactive sulfone by kidney so has little effect on renal prostaglandins (PGs).

NSAID TABLE ABBREVIATIONS AND FOOTNOTES

ABBREVIATIONS

Ave. = Average
AS = Ankylosing Spondylitis
ASA = Aspirin
Bleed. = Bleeding
CHF = Congestive heart failure
CNS = Central Nervous System
COX = Cyclooxygenase (types 1 and 2)
CV = Cardiovascular
EHC = Enterohepatic Circulation
EC = Enteric Coated
GI = Gastrointestinal
5-HIAA = 5-hydroxyindoleacetic acid
HCTZ = Hydrochlorothiazide
HTN = Hypertension
Hx = History
Inflam. = Inflammation (-atory)
IV = Intravenous
JRA = Juvenile Rheumatoid Arthritis
K^+ = Potassium
17-ketos. = 17-ketosteroids
Maint. = Maintenance
Max. = Maximum
Mfg = Manufacturer
MTX = Methotrexate
NSAID = Non-steroidal Anti-inflammatory Drug
OA = Osteoarthritis
PBZ = Phenylbutazone
PG = Prostaglandin(s)
? = Questionable, possible or no data
RA = Rheumatoid Arthritis
SR = Sustained Release
Supp. = Suppository
Suspen. = Suspension
WBC = White blood cells (leukocytes)

(o) Diclofenac: as renal clearance decreases, fecal excretion increases. May be a safety feature when used in patients with concurrent renal disease.

(p) Diclofenac: disproportionately high hepatic toxicity with a characteristic pattern[26] but no definitive proof the drug is really more hepatotoxic than others. Manufacturer recommends close follow-up and frequent liver function tests.

(q) Nabumetone: is the only NSAID in the PDR with a lower incidence of serious Gl AEs than the standard FDA warning (see legend: *!*). Peptic ulcer incidence for nabumetone was 0.3 percent at 3-6 months, 0.5 percent at one year and 0.8 percent at two years. Aspirin and salsalate are excluded from the standard warning as pre-1938 drugs (g).

(r) Diclofenac: Voltaren® is the same basic drug as Cataflam®. Do not use the two of them together. Naproxen (Naprosyn®): same basic drug as Naprelan,® Anaprox® and over-the-counter Aleve.®

(s) Fenoprofen: is the most frequent cause among NSAIDs of interstitial nephritis.[27]

(t) Meclofenamic acid: had 10-33 percent diarrhea. Four percent had to discontinue the drug because of severe diarrhea.

ACKNOWLEDGMENTS

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The safety, accuracy and cost savings of needle-localized and ultrasound-guided breast biopsies using intramuscular midazolam

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MIDAZOLAM HAS BEEN ADMINISTERED BY A NUMBER OF ROUTES TO OBTAIN ANXIOLYTIC, sedative, and amnestic responses for various procedures.[1] With the increased demand for needle-localized or ultrasound-guided breast biopsies with greater implementation of screening mammography, most localized breast biopsies have become outpatient procedures. Additionally, there has been controversy concerning the accuracy of biopsied lesions using local anesthetic alone.[2] For these reasons, we investigated the use of intramuscular (IM) midazolam to supplement a local anesthetic in needle-localized and ultrasound-guided breast biopsies in relation to intraoperative complications and accuracy of biopsy as well as to determine general recommendations regarding dosing in this female population.

PATIENTS AND METHODS

Patients and Procedures

From January, 1988, through June, 1994, 300 patients aged 27 to 85 years (mean 58 years) underwent 321 needle-localized breast biopsies using IM midazolam for suspicious mammographic lesions found during screening or diagnostic mammography. During the same time period, 38 patients aged 28 to 82 (mean 51) years underwent 42 ultrasound-guided breast biopsies using IM midazolam for nonpalpable lesions. Patients were those of one university hospital staff surgeon with intraoperative specimen radiography, postoperative mammography or ultrasonography obtained from the surgeon's operative log. The patients' hospital and follow-up clinic records were reviewed for complications of anesthesia and missed lesions.

Roentgenographic Technique

All needle-localizations were performed without anesthesia immediately before surgery. Needle-localizations were performed using a simple one-to-two inch 25-gauge hypodermic needle or with an occasional longer spinal needle. Each lesion was localized measuring from the nipple line on both craniocaudal and lateral mammograms. Postlocalization mammograms were taken to ensure that the needle was within 1 cm of the lesion unless otherwise specified by the radiologist. Additionally, 0.5 ml of 1 percent Isosulfan Blue (Lymphazurin, Hirsh Industries, Inc.), which will not impair estrogen receptor studies,[3] was injected after needle placement. The needle was secured to the breast by tape.

Sonographic Technique

All ultrasound-markings were done in the ultrasound unit with the patient positioned with her ipsilateral arm behind her head simulating her operative position. The mass was identified using a 7 MHz linear array transducer and was outlined on the skin to the posterior margin of the mass.

Surgical Technique

Patients were transported from radiology to the pre-operative holding room where informed consent and baseline vital signs were obtained. IM midazolam was injected in the deltoid muscle by the surgeon with dosages depending on the patient's age and physical exam. Most patients under age 60 received 6 mg with those older receiving 1 mg less for each subsequent decade of age. Younger, heavier patients received 1 extra mg for a maximum dose of 7 mg. Dosages were also reduced by 1-2 mg for small patients. Patients were expeditiously transported to the operating room by wheelchair and positioned in the lawn-chair position. The circulating nurse monitored patients (without anesthesia standby) using continuos pulse oximetry, electrocardiography, and automated blood pressures every 5 minutes. For most patients, 1 percent lidocaine without epinephrine was used for a field block as well as for cutaneous anesthesia. The surgery was performed by the staff surgeon or surgery residents (postgraduate year I-V) under direct staff supervision in a major operating room. An appropriate curvilinear incision was made in the breast and a core of tissue 2 cm from the needle was excised including all the isosulfan blue. The wound and specimen was palpated for any mass. The biopsy specimen was serially sectioned for gross pathology before being sent to radiology or pathology. Specimens with microcalcifications were sent to radiology to confirm excision of the lesion whereas mass lesions without microcalcifications were sent to pathology for frozen section. All specimens were sent for permanent section. Those patients not having specimen radiologists underwent follow-up mammography for confirmation of lesion removal unless obvious intraoperative or pathologic findings confirmed removal.

RESULTS

Of the 321 needle-localized breast biopsies, four patients had mild vasovagal reactions during needle placement. One of these patients also had a very short seizure. No treatment was required. Most patients (mode) received 6 mg IM midazolam (range 2 mg-7 mg, mean 5.5 mg). The mean dose of lidocaine was 204 MG. There were no recorded hypersensitivity reactions to the midazolam. There were four episodes of perioperative hypertension (systolic blood pressure (insert symbol) 200 mm Hg) requiring treatment with a sublingual antihypertensive with or without more local anesthetic, which reduced the blood pressure. There were three patients with mild hypotension (systolic blood pressure (insert symbol) 90 mm Hg). One patient had a base-line systolic blood pressure of 92 mm Hg which dropped to 87 mm Hg. One patient was slightly tachycardic preoperatively and intraoperatively. One patient had mild bradypnea without a drop in oxygen saturation necessitating prompting to breath more frequently. One nursing home patient who was frequently confused preoperatively was found to be confused postoperatively without other neurological findings. The patient was released and was back to baseline at her follow-up suture removal visit. Only one patient, whose lesion was missed, was documented as having discomfort during the procedure.

Of the 321 needle-localized biopsies, 122 patients had specimen radiographs. Of these, 118 demonstrated the suspicious microcalcifications. Follow-up mammography of one patient with a negative specimen radiograph revealed the microcalcifications to be intradermal, and in another patient the microcalcifications were shown to be removed. Pathologically, 77 biopsies contained cancer by permanent section. The remaining patients underwent follow-up mammography to confirm lesion removal.

The mean depth of the ultrasound-guided lesions was 19 mm. Of the 42 ultrasound-guided biopsies, three patients were found to have cancer. The remainder subsequently underwent follow-up sonography or mammography if the lesion was visible on preoperative mammography. One lesion was again seen on follow-up sonography.

Adding these results together, 358 of the 363 lesions were proven to be removed providing a biopsy accuracy rate of 99 percent. There were 80 patients diagnosed with cancer providing a positive biopsy rate of 22 percent.

BREAST BIOPSIES USING MIDAZOLAM

Continued from page 23

DISCUSSION

Outpatient breast biopsy using sedation demands a drug with rapid onset and rapid recovery. Intramuscular midazolam is an ideal medication for this procedure. Unlike other benzodiazepines, it is relatively pain-free and is rapidly absorbed. It has been used for preoperative anxiolysis and sedation usually in doses of 0.05-0.10 mg/kg.[4-5] It has been noted, however, that elderly patients frequently are oversedated (not responsive to verbal or tactile stimuli) using this dosing and 1-3 mg may provide adequate sedation in these patients.[6] Thus, because of this variability in dose-response, the dosage must be individualized. Furthermore, in men there are age-related changes in the elimination half-life and total clearance following IM, intravenous (IV), or oral administrations as well as a similar but significant trend in women.[7-8] Midazolam is also an ideal medication because of the possibility of reversal using IV Flumazenil (Romazicon, Roche), a benzodiazepine receptor antagonist. The dosage is 0.2 mg IV every minute until a desired level of consciousness or maximum of 1 mg is reached. Resedation may occur requiring redosing of flumazenil.[9]

In our experience, 6 mg of IM midazolam provided adequate sedation and anxiolysis for most patients. The dosage was reduced 1 mg for each decade above age 59 as well as for smaller patients. Dosages were increased usually by 1 mg for overweight, non-debilitated women without pulmonary disease. We observed a trend of blood pressure reduction (as seen elsewhere[6]) in patients between administration of midazolam and the first two blood pressure measurements in the operating room. Thus, we had three patients whose blood pressures were normal to low at baseline and subsequently decreased below 90 mm Hg systolic but none required treatment. There were four patients with intraoperative hypertension which was interpreted as a physiologic response to pain. Another patient did not have adequate anesthesia despite her IM midazolam and maximal dosage of lidocaine. Though she tolerated the procedure, she was uncomfortable which probably contributed significantly to her lesion being missed. In most patients, we found the onset of sedation correlated well with the time of administering the local anesthetic before the incision. Later, patients had prompt recovery in same day surgery and were discharged in the care of a family member within one hour.

There has been concern about the accuracy of needle-localization breast biopsies done under local anesthesia. Norton et al reported an accuracy rate of 78 percent in 81 outpatient biopsies using local anesthesia compared to 92 percent in 36 biopsies using general anesthesia.[2] Recently, however, reports of using local anesthesia for needle-localized breast biopsies have demonstrated accuracy rates of 98 percent.

In this paper, the accuracy rate using IM midazolam and local anesthetic for needle-localized biopsies is similar at 99 percent. This study also shows that simple hypodermic needle-localization with isosulfan blue is as accurate as the commonly used hook-wire needle systems.

The surgical literature contains little on the accuracy of breast biopsies using ultrasound-guidance. Schwartz and his associates have documented their experience excising 52 masses using preoperative and intraoperative sonographic marking in the operating room. It is assumed that the accuracy rate was 100 percent and the positive biopsy rate for cancer was six percent.[14] Fornage and colleagues also have described their ultrasound experience in 26 patients, though only 15 had preoperative and intraoperative sonographic localization in a manner similar to that of Schwartz. Again, all lesions were removed, and the positive biopsy rate was 38 percent.[15] Tates and associates have described nine patients who underwent preoperative sonographic localization, but the biopsies were performed under general anesthesia.[16]

The accuracy rate for ultrasound-guided breast biopsy was 97 percent in this study. Though similar to the accuracy of needle-localization breast biopsies, sonographic localization in the radiology suite may be better accomplished by portable sonography in the operating room.

Finally, this paper demonstrates that our-patient needle-localized and ultrasound-guided breast biopsies can be accomplished without general anesthesia or conscious sedation administered by an Anesthesiologist. This anesthetic technique saves 32 percent of the cost (based on 1994 charges not including surgeon's fee) at this institution, and most Centers have reported an average cost savings of 10-64 percent using local instead of a general or monitored anesthetic.[2,17-19]

SUMMARY

Needle-localized and ultrasound-guided breast biopsies for non-palpable masses using intramuscular midazolam and local anesthesia is safe with proper monitoring, provides an acceptable accuracy rate, and is cost-effective. An IM midazolam age-related dose protocol is outlined.

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A case of mixed cryoglobulinemia

Michael P Honan, MD

The patient is a seventy-one year old white female with a history of rheumatoid arthritis and Sjogren's Syndrome who was doing well until approximately one month prior to admission when she developed a rash on her lower legs. The patient was seen by her rheumatologist who noted palpable purpuric lesions on the anterior aspect of her lower extremities. The patient was started on prednisone 10 mg four times per day and instructed to continue her iron supplement, methotrexate and trilisate. Lab evaluation at that time revealed an albumin of 3.3 grams/dl., creatinine was 1.1 mg/dl, K+ was 5.4 mEq/L and >100 mg/dl proteinuria was identified. Previous lab results had demonstrated a creatinine of 0.7 mg/dl, total protein of 6.3 mg/dl and urinalysis without proteinuria.

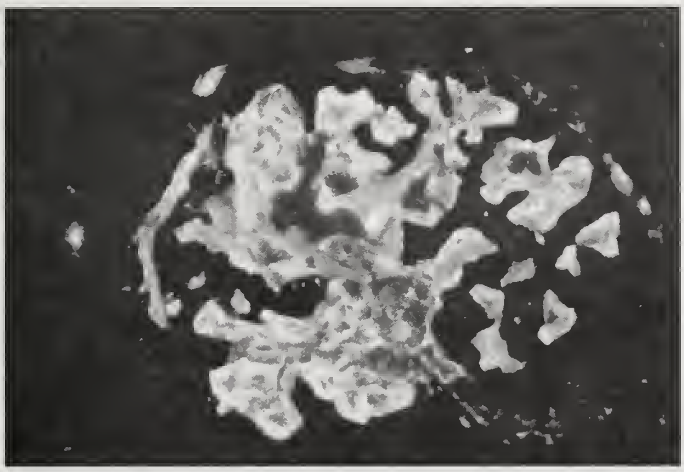
The patient's rash improved with steroid therapy. On the day of admission, she experienced acute onset epigastric pain awakening her from sleep followed by coffeeground emesis. Emergency Room examination demonstrated free air under the diaphragm on x-ray and patient was taken for exploratory laparotomy where a perforated prepyloric ulcer was oversewn. Postoperatively, the patient was noted to be hypertensive with diminished urine output.

Past medical history was significant for:

1. rheumatoid arthritis
2. Sjogren's syndrome
3. presumed leukocytoclastic vasculitis four weeks prior to admission
4. elevated BP two weeks prior to admission

Table I: Etiology of decreased complement (C3, C4)

1. Poststreptococcal infection (most common)
2. Systemic lupus erythematosus
3. Essential mixed cryoglobulinemia
4. Membranoproliferative Glomerulonephritis
5. Subacute Bacterial Endocarditis
6. Cholesterol Emboli Syndrome
7. Rheumatoid Arthritis with Vasculitis



Immunofluorescence image if IgM precipitates filling glomerular capillaries in globulinemia. (Courtesy of Dr. W. Richardson, Physicians Reference Laboratory)

Physical examination demonstrated an elderly white female lying in bed complaining of abdominal pain. Vitals included BP of 130/80, pulse of 80, respirations of 16 and she was afebrile. Lungs were clear. Cardiovascular demonstrated regular rate and rhythm and a II/VI systolic ejection murmur best appreciable at the second intercostal space with radiation to the carotids bilaterally. The abdomen had quiet bowel sounds and was distended. There was diffuse tenderness to palpation. Extremities showed several one to two centimeter palpable purpuric lesions scattered anteriorly on the distal lower extremities with 2+/4 pitting edema.

Hospital Course

The patient was initially stable postoperatively but subsequently developed an elevated blood pressure as well as decreased urine output. Initial stress dose steroids were gradually weaned and patient received furosemide and nifedipine as needed. Urine output increased, however patient remained hypertensive with BP's of 170/70 while on enalaprilat and furosemide intravenously. Clear liquid diet was started and advanced. Creatinine increased to 1.5 mg/dl. And urinalysis showed proteinuria>100 mg/dl with gross hematuria. An echocardiogram demonstrated hyperdynamic left ventricular function with mild left ventricular hypertrophy. Trivial mitral regurgitation and aortic insufficiency were noted as well. Small bilateral pleural effusions were noted on clinical exam and confirmed by chest x-ray. Complement levels were obtained on day #4 post operatively demonstrating CH 50 at 57.7 mg/dl (normal 83-177 mg/dl) and decreased C4 at <8.0 mg/dl (normal 15-45 mg/dl) (see Table 1). On day #5, blood pressure increased to 160/90-230/100. Renal ultrasound showed bilateral hyper echoic kidneys approximately 10-11 cm in length with one simple cyst in the lateral aspect of the right kidney. Bilateral lower extremities demonstrated persistent peripheral edema and purpuric lesions without change (see Table 2).[9]

On day #6, the patient's anemia worsened (hemoglobin of 7.9 gms/dl) and laboratory evaluation revealed mildly increased LDH, positive schistocytes, negative Coombs (both direct and indirect) and a normal bilirubin. The patient was transfused two units packed red blood cells. Additional lab tests demonstrated albumin of 2.5 gm/dl (normal 3.5 gm/dl) and of protein. A definitive test was ordered and several days later a diagnostic procedure was performed.

DISCUSSION

Cryoglobulins are serum immunoglobulins which form a precipitate at low temperatures: they become soluble again when the temperature is increased.[1] Cryoglobulins have been classified into three major types (see Table 3, page 30). Type 1 are monoclonal immunoglobulins (often IgM) and are commonly associated with lymphoproliferative disorders (see Table 4, page 31),[9] most often non Hodgkins Lymphoma, multiple myeloma, and Waldenstrom's macroglobulinemia. Type II Cryoglobulins consist of a monoclonal immunoglobulin (often

TABLE II: CLINICAL FEATURES OF MIXED CRYOGLOBULINEMIA

FEATURE	FREQUENCY (PERCENT)
purpura	100
leg ulcers	30
Raynaud's phenomenon	25
arthralgias	72
renal disease	55
edema	50
hypertension	45
hepatic involvement	70
abdominal pain	20
lymphadenopathy	17
Sjogren's syndrome	15
paresthesia; foot drop	12.5; 7.5
thyroiditis	5
herpes zoster	17.5
bacterial pneumonia	20

A CASE OF MIXED CRYOGLOBULINEMIA

Continued from page 27

TABLE III: IMMUNOCHEMICAL CLASSIFICATIONS AND SERUM LEVELS OF THE CRYOGLOBULINS

		CRYOGLOBULIN LEVEL		
IMMUNOCHEMICAL TYPE	FREQUENCY	<1 mg/ml	1-5 mg/ml	>5 mg/ml
Type 1 (monoclonal cryoglobulin)	24.5%	10%	30%	60%
Type II (mixed cryoglobulin with a monoclonal component)	25.5%	20%	40%	40%
Type III (mixed polyclonal cryoglobulin)	50%	80%	20%	0%

IgM-rheumatoid factor) and a polyclonal immunoglobulin (often IgG). Type III Cryoglobulins make up the bulk of cryoglobulinemias (approximately 50 percent)[2] and consist of polyclonal immunoglobulins (both IgM and IgG). Type III Cryoglobulins are usually found in minute amounts (vs abundant amounts of Type I and variable amounts of Type II). Type II and III are often referred to as mixed Cryoglobulins. When no other major causative or associated disease can be demonstrated despite extensive evaluation, these are often referred to as essential mixed cryoglobulinemia.[3]

Essential mixed cryoglobulinemia typically presents in middle-aged women and have a characteristic clinical triad of a) palpable purpuric lesions, b) weakness and c) arthralgias. The extent of the vasculitis may be variable and sometimes involves the nerves (mononeuritis multiplex), the brain (central nervous system vasculitis) or the kidneys. Membranoproliferative lomerulonephritis is the most common form of renal involvement. Associated liver disease, predominantly Hepatitis C and, less commonly, Hepatitis B, have been reported with increasing regularity in conjunction with mixed cryoglobulinemia in the literature.[4,5] Some studies have reported up to 60-80 percent of mixed cryoglobulinemia patients have hepatic dysfunction (chronic active hepatitis, cirrhosis or triaditis).[6] There is a report of contraction of mixed cryoglobulinemia after hepatitis B recombinant vaccine administration.[7] Hepatic transplantation does not preclude subsequent development of cryoglobulinemia in this population of patients.[8]

Treatment of mixed cryoglobulinemia is variable depending of the extent and severity of disease involvement. Dermatological manifestations alone are sometimes managed with penicillamine. More extensive disease progression is treated more aggressively including use of cytotoxic agents when necessary (cyclophosphamide). High doses of steroids may be employed as well as the use of plasmapheresis when necessary (up to 10 percent of all cases). Immunosuppressive therapy, including the use of alpha-interferon, is employed when associated with hepatitis C.[4]

The laboratory test ordered in this patient was serum for Cryoglobulins which was positive with 5 percent cryoprotein, suggestive of Type II mixed Cryoglobulins. The diagnostic procedure performed was a kidney biopsy which showed focal proliferative glomerulonephritis with mixed cryoglobulinemia.

The patient was treated with cytoxan and subsequently discharged home. Five days later, the patient was readmitted with low grade fevers and chills and found to be pancytopenic. She was treated with cefazolin, ceftazidime and vancomycin for fourteen days. The patient complained of back pain and a bone scan demonstrated a C2-C3 compression fracture. A paracentesis was performed demonstrating transudative fluid secondary to nephrotic syndrome. The patient was discharged home after her blood counts returned to normal.

The patient was readmitted one week later with fevers and increasing lethargy, and was started on vancomycin and aztreonam for staphylococcal bacteremia. The patient continued to deteriorate and underwent a ventilation/perfusion scan which was interpreted as high probability for a pulmonary embolus. A repeat echocardiogram revealed a questionable aortic valve vegetation. The patient developed lower

GI bleeding precluding anticoagulation. A Swan-Ganz catheter revealed noncardiogenic pulmonary edema consistent with ARDS. The patient's condition continued to deteriorate and she died approximately four days after her most recent admission.

TABLE IV: DISEASES ASSOCIATED WITH CRYOGLOBULINS

INFECTIONS
- viral: Epstein-Barr virus, cytomegalovirus, hepatitis B & C, adenovirus
- spirochetal: Lyme disease, syphilis
- bacterial: bacterial endocarditis, lymphogranuloma venereum, leprosy
- fungal: coccidiomycosis
- parasitic: toxoplasmosis, malaria, schistosomiasis, echinococcosis, Kala-Azar

AUTOIMMUNE DISEASES
- systemic lupus erythematosus
- rheumatoid arthritis
- polyarteritis nodosa
- Sjogren's syndrome
- scleroderma
- thyroiditis
- Henoch-Schoenlein purpura
- Bechcet's syndrome
- sarcoidosis
- autoimmune hemolytic anemia
- idiopathic thrombocytopenic purpura

LYMPHOPROLIFERATIVE DISEASES
- Waldenstrom's macroglobulinemia
- lymphoma, chronic lymphocytic leukemia, multiple myeloma

LIVER DISEASES
- cirrhosis, chronic hepatitis

RENAL DISEASES
- proliferative glomerulonephritis

ADDENDUM

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Dr. Honan is a Clinical Associate Professor at the University of Kansas Medical Center in the Department of Internal Medicine, and a practicing physician with Pratt Internal Medicine Group, PA in Pratt, KS.

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Medicare adjusted average per capita costs in Kansas: a rural/urban differential

Rick Kellerman, MD

The Health Care Financing Administration reports the annual average "per member per month" fee-for-service cost of aged Medicare beneficiaries in every county of the United States. The cost calculation utilizes the five previous years of Medicare fee-for-service expenditures of all beneficiaries residing in a county. It is adjusted for the age distribution, gender, employment status, rate of institutionalization and Medicaid eligibility of the beneficiaries. The resulting calculation is referred to as the adjusted average per capita cost (AAPCC).

Services calculated in the AAPCC are not necessarily all provided in the beneficiary's county of residence. For rural Medicare beneficiaries, a number of services may be provided in urban tertiary care centers. The tertiary care services provided in urban areas are often those with high costs. All services are then included in the AAPCC calculation for the Medicare beneficiary's county of residence. In effect, the AAPCC is the average monthly fee-for-service cost of medical care paid for by Medicare for the average beneficiary residing in each county in the United States.

The AAPCC is of particular importance in a managed care environment. The AAPCC has been used as the basis for calculating payments for Medicare HMO risk contracts. Until 1998, Medicare sets its capitation rate at 95 percent of the AAPCC in the county where the beneficiary lived.[1] If the AAPCC was low, the money available to a managed care organization was correspondingly be low. If the AAPCC was high, more money was available to the managed care organization.

Medicare program expenditures account for 11 percent of the federal budget and Medicare cost inflation has outstripped the consumer price index each year since 1969.[2] As the population of the United States ages, the need to control health care expenditures becomes increasingly important. Some policy analysts have credited HMOs which serve Medicare beneficiaries as successfully controlling hospital in-patient days, thus helping to control medical costs. Others have questioned these overall cost savings and have pointed to "cherry-picking", the enrollment of healthy Medicare beneficiaries and the exclusion of sicker patients, as artificially appearing to lower costs.[3]

The Health Care Financing Administration and United States Congress have pursued a public policy that encourages managed care as a way to control rising Medicare expenditures.[4] Still, enrollment in Medicare managed care is low in rural areas compared to urban areas. The low enrollment has been attributed to several factors: a lower population base to spread risk, adverse selection in the rural population, and a lack of available contracting physicians. Another factor is the lower AAPCC rate in rural counties compared to urban counties.[5] This variation has been reported on a national basis.[5,6] This paper documents the variation in AAPCC rates for the 105 counties in Kansas and between urban and rural counties.

Methods: The AAPCC for each Kansas county is readily available from the Health Care Financing Administration. HCFA also provides the number of Medicare beneficiaries in each county and the percentage of managed care penetration per county. HCFA calculates separate AAPCC rates for aged beneficiaries and disabled beneficiaries in each county. Only the AAPCC rates for the aged Medicare population were utilized in this study. 85 to 90 percent of Medicare beneficiaries receive benefits due to age rather than disability.[5] Medicare also computes a separate statewide AAPCC for beneficiaries with end-stage renal disease which was not included in this analysis. For purposes of this paper, "AAPCC" refers to the HCFA calculation for the aged Medicare population.

Each Kansas county was classified using two different systems. The first system was developed by the Rural Policy Research Institute (RUPRI), Columbia, Missouri. Using this system, counties are classified into three groups: Urban, Rural Adjacent to Urban (RA), or Rural Not Adjacent to Urban (RN).

Using an alternate system, Kansas counties were classified by total population, based on the 1990 federal census, into three categories: population less than 10,000, 10,000 to 50,000 and greater than 50,000. In Kansas, this categorization system roughly corresponds to the definitions of frontier (less than or equal to 6 people per square mile), nonmetropolitan statistical populations and metropolitan statistical areas (MSAs).[7]

To determine the mean AAPCC for both county classification systems, each individual county AAPCC rate was multiplied by the number of beneficiaries in the county. This result was totalled for all the counties classified in each system and divided by the total number of beneficiaries in the classification. The results for the RUPRI system can be compared to national averages.

Results: Table 1 lists the 105 Kansas counties classified as Urban (9 counties), RA (19 counties) and RN (77 counties), in ascending order of their corresponding AAPCC rate. Table 1 also includes the county population based on the 1990 federal census, the number of Medicare beneficiaries per county in December 1996 according to HCFA, the calculated percentage of the population with Medicare and the Medicare HMO penetration rate provided by Medicare as of December 1996.

Among the 9 counties classified as Urban, Harvey and Miami counties have populations less than 50,000. Among the 96 counties classified as RA or RN, only Reno and Riley counties have populations in excess of 50,000.

Rural Sherman and Morton counties have the highest Medicare AAPCC rates in the state at $519 and $512, respectively. Wyandotte county has the third highest AAPCC rate in the state at $508. Republic county has the lowest AAPCC rate in the state at $265, followed by Marion county at $295.

Twenty-four (31 percent) of the 77 of the counties classified as RN have an AAPCC of less than $367. Eight (42 percent) of the 19 of the counties classified as RA have an AAPCC of less than $367. One (11 percent) of the nine Urban counties have an AAPCC of less than $367.

Sixteen (26 percent) of the 62 counties with populations less than 10,000 have AAPCC rates of less than $367. 17 (50 percent) of 34 counties with populations between 10,000 and 50,000 have rates less than $367. No county with a population greater than 50,000 has an AAPCC rate less than $367.

Table 2 lists the mean, minimum and maximum AAPCC in Kansas based on the RUPRI classification system. For all 105 Kansas counties, the mean AAPCC is $408; the median is $385. The mean AAPCC is lower for rural (RN and RA) counties than Urban counties. The RN county classification includes both the lowest and highest AAPCC rates in the state, ranging from $265 to $519 per beneficiary.

For comparison, the mean 1997 AAPCC nationally is $395 compared to $408 for the 105 Kansas counties. The mean national AAPCC for RN counties is $369 compared to $379 for Kansas counties. The mean national AAPCC for RA counties is $390 compared to $372 in Kansas. The mean national AAPCC

MEDICARE PER CAPITA COSTS IN KANSAS

continued from page 31

1997 AAPCC RATES

Table 1. Counties sorted by 1997 AAPCC rate

County	RUPRI County Classification	Total Population	# Medicare Beneficiaries	% Population with Medicare	Medicare HMO Penetration rate	AAPCC Rate
Harvey	**Urban**	31,028	5,973	19.3%	0.0%	$347
Douglas	**Urban**	81,798	8,514	10.4%	0.2%	$371
Shawnee	**Urban**	160,976	27,227	16.9%	0.1%	$377
Butler	**Urban**	50,580	7,526	14.9%	0.0%	$380
Sedgwick	**Urban**	403,662	57,870	14.3%	0.6%	$451
Miami	**Urban**	23,466	3,579	15.3%	0.5%	$452
Leavenworth	**Urban**	64,371	6,888	10.7%	0.6%	$467
Johnson	**Urban**	355,021	45,167	12.7%	14.1%	$469
Wyandotte	**Urban**	162,026	23,895	14.7%	22.5%	$508
Osage	**RA**	15,248	2,954	19.4%	0.2%	$339
Wabaunsee	**RA**	6,603	1,193	18.1%	0.0%	$343
Anderson	**RA**	7,803	1,830	23.5%	0.2%	$354
Cowley	**RA**	36,915	6,762	18.3%	0.0%	$355
Jefferson	**RA**	15,905	2,584	16.2%	0.2%	$355
Elk	**RA**	3,327	890	26.8%	0.0%	$361
Reno	**RA**	62,389	11,745	18.8%	0.0%	$368
Doniphan	**RA**	8,134	1,461	18%	0.0%	$376
Crawford	**RA**	35,582	7,203	20.2%	0.0%	$381
Atchison	**RA**	16,932	3,078	18.2%	0.0%	$384
Greenwood	**RA**	7,847	2,125	27.1%	0.0%	$390
Cherokee	**RA**	21,374	4,072	19.1%	0.1%	$393
Linn	**RA**	8,254	2,011	24.4%	0.6%	$395
Sumner	**RA**	25,841	4,755	18.4%	0.1%	$399
Franklin	**RA**	21,994	4,006	18.2%	0.1%	$402
Kingman	**RA**	8,292	1,745	21%	0.1%	$420
Pottawatomie	**RA**	16,128	2,545	15.8%	0.1%	$435
Republic	**RN**	6,482	1,686	26%	0.0%	$265
Washington	**RN**	7,073	1,881	26.6%	0.1%	$304
Comanche	**RN**	2,313	565	24.4%	0.0%	$307
Ottawa	**RN**	5,634	1,152	20.4%	0.0%	$311
Norton	**RN**	5,947	1,352	22.7%	0.0%	$312
Clay	**RN**	9,158	2,036	22.2%	0.1%	$317
McPherson	**RN**	27,268	5,467	20%	0.0%	$319
Smith	**RN**	5,078	1,341	26.4%	0.0%	$319

County	RUPRI County Classification	Total Population	# Medicare Beneficiaries	% Population with Medicare	Medicare HMO Penetration rate	AAPCC Rate
Greeley	RN	1,774	317	17.9%	0.3%	$320
Marshall	RN	11,705	2,721	23.2%	0.1%	$323
Chautauqua	RN	4,407	1,118	25.4%	0.2%	$325
Geary	RN	30,453	2,932	9.6%	0.2%	$326
Dickinson	RN	18,958	4,041	21.3%	0.1%	$332
Cloud	RN	11,023	2,716	24.6%	0.0%	$333
Morris	RN	6,198	1,365	22%	0.0%	$340
Gray	RN	5,396	843	15.6%	0.0%	$341
Nemaha	RN	10,446	2,395	22.9%	0.1%	$342
Rice	RN	10,610	2,277	21.5%	0.0%	$342
Jewell	RN	4,251	1,085	25.5%	0.2%	$347
Brown	RN	11,128	2,386	21.4%	0.1%	$357
Montgomery	RN	38,816	8,117	20.9%	0.0%	$358
Pawnee	RN	7,555	1,512	20%	0.0%	$361
Wilson	RN	10,289	2,238	21.8%	0.0%	$362
Allen	RN	14,638	2,927	20%	0.1%	$364
Bourbon	RN	14,966	3,231	21.6%	0.0%	$367
Decatur	RN	4,021	937	23.3%	0.1%	$367
Riley	RN	67,139	5,075	7.6%	0.1%	$369
Lincoln	RN	3,653	880	24.1%	0.0%	$370
Saline	RN	49,301	8,543	17.3%	0.1%	$375
Neosho	RN	17,035	3,527	20.7%	0.0%	$376
Osborne	RN	4,867	1,284	26.4%	0.0%	$379
Mitchell	RN	7,203	1,657	23%	0.0%.	$380
Woodson	RN	4,116	1,104	26.8%	0.1%	$380
Lyon	RN	34,732	4,799	13.8%	0.1%	$381
Ford	RN	27,463	3,944	14.4%	0.1%	$382
Sheridan	RN	3,043	577	19%	0.0%	$384
Wichita	RN	2,758	426	15.4%	0.0%	$385
Phillips	RN	6,590	1,443	21.9%	0.0%	$386
Rawlins	RN	3,404	791	23.2%	0.0%	$386
Finney	RN	33,070	3,406	10.3%	0.0%	$388
Logan	RN	3,081	762	24.7%	0.4%	$391
Harper	RN	7,124	1,674	23.5%	0.0%	$392
Barton	RN	29,382	5,607	19.1%	0.1%	$393
Grant	RN	7,159	811	11.3%	0.0%	$397
Labette	RN	23,693	4,655	19.6%	0.0%	$399
Chase	RN	3,021	634	21%	0.0%	$404

MEDICARE PER CAPITA COSTS IN KANSAS

continued from page 33

for Urban counties is $439 compared to $443 in Kansas. The highest AAPCC nationally is Richmond County (Staten Island), New York at $767. The lowest AAPCC rates nationally are $221 in Arthur and Banner counties in western Nebraska.[6]

Table 3 lists the mean, minimum and maximum AAPCC for Kansas counties of less than 10,000, from 10,000 to 50,000, and over 50,000 population. The 34 counties with populations from 10,000 to 50,000 have the lowest mean AAPCC of $371. The 62 counties with populations less than 10,000 have a mean AAPCC of $392 and the widest range of AAPCC rates from $265 to $519. The nine counties with populations greater than 50,000 have a mean AAPCC of $439.

County	RUPRI County Classification	Total Population	# Medicare Beneficiaries	% Population with Medicare	Medicare HMO Penetration rate	AAPCC Rate
Stafford	RN	5,365	1,185	22.1%	0.1%	$405
Coffey	RN	8,404	1,664	19.8%	0.1%	$406
Barber	RN	5,874	1,351	23%	0.1%	$411
Kearny	RN	4,027	526	13.1%	0.2%	$413
Ness	RN	4,033	942	23.4%	0.0%	$415
Meade	RN	4,247	903	21.3%	0.0%	$419
Stanton	RN	2,333	323	13.8%	0.0%	$423
Rush	RN	3,842	1,057	27.5%	0.0%	$424
Hamilton	RN	2,388	563	23.6%	0.0%	$425
Stevens	RN	5,048	796	15.8%	0.1%	$427
Kiowa	RN	3,660	830	22.7%	0.0%	$428
Russell	RN	7,835	1,998	25.5%	0.0%	$429
Wallace	RN	1,821	360	19.8%	0.0%	$431
Hodgeman	RN	2,177	395	18.1%	0.0%	$433
Seward	RN	18,743	2,138	11.4%	0.0%	$435
Edwards	RN	3,787	859	22.7%	0.1%	$436
Haskell	RN	3,886	472	12.1%	0.0%	$437
Ellsworth	RN	6,586	1,411	21.4%	0.1%	$440
Cheyenne	RN	3,243	860	26.5%	0.2%	$444
Scott	RN	5,289	626	11.8%	0.0%	$446
Rooks	RN	6,039	1,379	22.8%	0.0%	$447
Clark	RN	2,418	585	24.2%	0.0%	$453
Graham	RN	3,543	718	20.3%	0.0%	$459
Gove	RN	3,231	754	23.3%	0.0%	$465
Thomas	RN	8,258	1,256	15.2%	0.0%	$468
Ellis	RN	26,004	4,280	16.5%	0.1%	$472
Lane	RN	2,375	518	21.8%	0.0%	$478
Pratt	RN	9,702	2,036	21%	0.0%	$485
Trego	RN	3,694	821	22.2%	0.0%	$491
Morton	RN	3,480	540	15.5%	0.2%	$512
Sherman	RN	6,926	1,298	18.7%	0.2%	$519

Table 2. Kansas 1997 AAPCC by RUPRI Classification				
Rate Statistics by Population Category				
Category	Number of Counties	Mean	Minimum	Maximum
RN	77	$379	$265	$519
RA	19	$372	$295	$435
Urban	9	$443	$347	$508
ALL	105	$408	$265	$519

The AAPCC rates for the three Kansas counties with populations greater than 100,000, Sedgwick, Johnson and Wyandotte, are $451, $469 and $508 respectively, well above the total state-wide AAPCC average of $408. The only counties in Kansas where Medicare HMO penetration rates exceed 0.6 percent are Johnson and Wyandotte counties with penetration rates of 14.1 percent and 22.5 percent, respectively and a mean rate of $482.

DISCUSSION

Consistent with national statistics, the AAPCC in rural Kansas is lower than urban Kansas. An understanding of the AAPCC is important in a managed care environment. Managed care companies are more likely to be interested in establishing Medicare HMOs where the AAPCC rate is higher. Higher AAPCC rates translate into a higher capitation rate and a higher likelihood of profit for managed care companies.

For a number of reasons, the AAPCC in rural areas is lower than the AAPCC in urban areas. Historically, rural physicians and hospitals have been paid at lower rates than their urban counterparts; access to medical services may be less readily accessible to rural Medicare beneficiaries; household income, the percent of beneficiaries with Medigap insurance and the percent of incomes above the poverty line are all lower in rural areas compared to urban areas.[8,9]

An alternate explanation for the lower AAPCC rates in rural areas is that rural beneficiaries are healthier and require less medical care. However, there is evidence that the disease burden of rural Kansas Medicare beneficiaries is higher than beneficiaries of the metropolitan Kansas City area.[8] If an adjustment for co-existing illness was applied in Kansas, the historic AAPCC in rural areas of the state would be $14 higher and the AAPCC in metropolitan Kansas City would be $4 lower.[8]

Medicare funding available to managed care organizations for risk contracting is calculated based on a county's AAPCC. Managed care organizations may use this funding for administrative overhead (an average of 19 percent), beneficiary services and benefits, hospitalization payment and physician payment.[4,6] Under HCFA regulations, if a risk plan receives payments in excess of the costs of providing benefits to Medicare beneficiaries plus an allowed profit margin, the plan is required to return the difference to Medicare or offer additional benefits to beneficiaries. Additional benefits may include coverage for prescription medications and medical supplies such as eyeglasses.[6] Anecdotally, managed care organizations in some areas of the country offer health club memberships to Medicare beneficiaries.

Managed care organizations may have higher administrative costs than the traditional Medicare fee-for-service system. One study showed that although expenditures for health services decreased by 11 percent in risk plans, administrative overhead for marketing, utilization review, quality assurance programs, claims processing, negotiation of contracts with physicians and hospitals and compliance with federal and state regulations was 10 to 13 percent of total costs, compared to 2 percent in the Medicare fee-for-service system.[10] There is no guarantee that in a county with a high AAPCC, additional money will be made available through risk contracting for higher hospital or physician payments.

Table 3. Kansas 1997 AAPCC by Population of County				
Rate Statistics by Population				
Population	Number of Counties	Mean	Minimum	Maximum
<10,000	62	$392	$265	$519
10,000-50,000	34	$371	$295	$472
>50,000	9	$439	$368	$508

MEDICARE PER CAPITA COSTS IN KANSAS

continued from page 35

The two counties with the highest AAPCC rates in Kansas are in frontier areas of the state. One possible explanation for this is the potential for "tyranny of the numerator". One or two patients with extremely high medical care costs in a county with a low number of beneficiaries, will have a higher average cost per beneficiary. This may result in fluctuations and volatility in a county's calculated AAPCC from year to year. It is important to remember that the AAPCC includes the cost of services provided in counties other than the beneficiary's own county of residence. Referrals for tertiary care provided in urban areas are reflected in the rural county's AAPCC. A high AAPCC rate is not necessarily indicative of a lack of cost-conscious medical care. Conversely, a low AAPCC rate is not necessarily a sign of cost-efficiency.

Counties with populations between 10,000 and 50,000 had an average AAPCC of $371 compared to $392 for counties with less than 10,000 population and $439 for counties with more than 50,000 population. 50 percent of counties with populations between 10,000 and 50,000 have AAPCC rates of less than $367. The reason for these relatively low AAPCC rates is uncertain and should lead to further investigation. We can speculate that these "mid-sized" Kansas counties have efficient health care systems. These communities may support an efficient work force cadre of primary care and surgical care specialties without high cost tertiary care or technology.

Interestingly, the Medicare HMO penetration rate in Sedgwick county is only 0.6 percent. The average AAPCC for Sedgwick, Harvey and Butler counties combined is $435. There are a total of 71,369 Medicare beneficiaries in these three counties. For comparison, the Medicare HMO penetration rate in Tulsa County, Oklahoma, which has 81,962 beneficiaries and an AAPCC of $433 is 18.2 percent. We can speculate that there is potential for Medicare HMO growth in the Wichita metropolitan area.

Medicare payment policies disproportionately impact rural health care systems compared to urban systems. Nationwide, 16.2 percent of the rural population has Medicare coverage compared to 12.7 percent of urban counties.[6] In Kansas, over 25 percent of the population of twelve counties, all with populations of less than 10,000, are covered by Medicare. Older patients generally have more multi-system disease, more chronic medical ailments and take longer to adequately evaluate than younger patients. Reimbursement rates for Medicare are generally lower than commercial insurance for identical CPT codes and services. In 1994, rural physicians received 33.1 percent of their gross practice income from Medicare compared to 26.7 percent for urban physicians. On average, rural hospitals receive a higher percentage of patient revenues from Medicare than urban hospitals.[11]

All Medicare beneficiaries, regardless of county residence, pay the same monthly payment for Medicare coverage. Yet average costs per urban beneficiary are higher than those for rural beneficiaries. This may mean that urban beneficiaries receive more services than rural beneficiaries. This may also indicate subsidization of care for the urban elderly by rural elderly. Payments made by rural beneficiaries for care provided in urban areas results in a "dollar-drain" from rural counties that preferentially benefits urban economies. Kansas physicians may ponder the fundamental fairness of a payment system for health care that offers health club membership to some beneficiaries while other beneficiaries have difficulty accessing basic physician and hospital services.

The Balanced Budget Act of 1997 (P.L. 105-33) legislates a new methodology for developing Medicare Managed Care Payment Rates. The new methodology sets a payment rate floor of $367 and "blends" each county's historic AAPCC with the national average over a period of years using a weighted averaging formula. A number of adjustments including a graduate medical education carve-out and budget neutrality provision complicate the calculations of the new payment rates.[12] Further analysis will be required to determine the effect the new methodology will have on potential payment rates for Kansas Medicare managed care plans.

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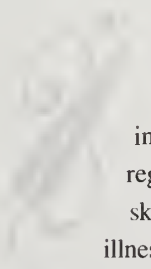
A complete list of references for this article is available by calling Christine Schieferecke at 785.235.2383 or 800.332.0156.

The older driver

Rosemary D Laird, MD



AS THE ELDERLY COMPRISE AN EVEN greater proportion of the population, the number of elderly drivers is increasing. Subsequently, concern is developing regarding their ability to maintain safe driving skills despite limitations secondary to aging and/or illness. Physicians caring for older patients are likely to become involved in discussions about capacity to drive. Determination of driving competence is difficult due to the complexity of the task and its social ramifications. Inability to drive can lead to a decreased sense of well-being and life quality. Particularly in areas with large numbers of rural elderly such as Kansas, inability to drive can cause isolation from friends, social support services, and medical care.

TRANSPORTATION AND THE ELDERLY

As with the general population, driving is highly coveted by the elderly. In 1990, 90 percent of men over 65 and 80 percent of women over 65 held licenses.[1] Most older adults use cars to maintain independent living, making trips to stores or for social or family reasons.[2] In addition, the elderly are infrequent users of public transportation and are less likely to live in urban settings with alternative forms of transportation available.[3] For many older adults these factors make it necessary for them to drive. And contrary to popular supposition, in most cases they do so safely.

A common misperception is that older adults account for a disproportionate number of accidents. In fact, they account for a lower proportion of accidents than any other age group. When correction is made for miles driven, however, older adults have an accident rate 2.5 times the average. Notably, a 16 year old driver has an accident rate that is 20 times the average.[4]

Much of the "safety" of the older driver is derived from self-limited decreases in driving. After age 65 the annual average number of miles driven declines from 19,000 for male drivers aged 35-39 to 5000 for males aged 80-84.[5] Insurance companies know this, and offer premium reductions after age 65 for those with clean records. Some studies do show, however, that the elderly have higher rates of traffic violations. Most citations relate to right of way and signage. These facts highlight the importance of psychomotor mobility, visual acuity, and cognition in diving skills.

FUNCTIONAL CONSIDERATIONS

Driving requires the integration of neuromuscular and cognitive functions. Physiologic changes of aging as well as the effects of medical illness can affect driving skills. Reduced visual acuity and field of vision, difficulty with night vision, increased sensitivity to glare, psychomotor skill deficits, and cognitive loss are all more common with increasing age. Beyond age-related changes, disease processes that predispose persons to unpredictable, disabling events can be problematic.

MEDICAL CONDITIONS AND DRIVING

While driving-related functional abilities should be considered stronger indicators of ability to drive than a particular medical diagnosis, there are specific disease states that can significantly impact ability to drive safely. Patients with known cognitive losses, orthopedic limitations of the neck or extremities, uncontrolled cardiac arrhythymias, history of cerebrovascular events, Parkinson's Disease, sleep disorders, multiple medications, and/or a propensity to falling, are likely at high risk for accidents and require closer evaluation.

ASSESSMENT OF THE ELDERLY DRIVER

Need to assess driving capacity is likely to occur following diagnosis of one of the above disease states, a specific medical event such as stroke, or a report of an accident or moving violation received from the patient, family members, or law enforcement officials. The assessment of a patient's capacity to drive is complex, and not simply related to age and medical illness.

Traditional history and physical examination should be augmented to include elements of functional skill including tests of vision, hearing, cognitive skills such as visual-spatial, recall, and executive functioning, motor strength and range of motion, response time, and attention. When evaluation reveals functional deficits, providers should determine if adaptive equipment or rehabilitative efforts can augment patient skills and result in a safe driver.

THE OLDER DRIVER

continued from page 37

REHABILITATION AND ADAPTATION

The following table identifies common functional deficits and the adaptations that may allow safe operation of a motor vehicle.

In addition to assistive devices, the American Association of Retired Persons provides literature and "refresher courses" designed to reinforce skills and provide suggestions about adjusting driving skills for common functional changes.[6]

COGNITION AND DRIVING

When assessment reveals cognitive loss, the issue of driving assessment often becomes more complex. A number of recent trials has demonstrated a correlation between cognitive losses of early/mild dementia and the risk of losing the drivers license secondary to an accident or failed road test. Other researchers caution against using the diagnosis of dementia alone as a reason to withdraw the driving privilege. One study in fact showed that performance of mildly demented drivers can be markedly improved with an appropriate "co-pilot", thus, preserving the mobility and self-esteem of the patient as well as the safety of society.[7] Most experts recommend Mini-Mental State Examination and road testing for those with scores < 23 out of a possible 30.[8]

LICENSING OF ELDERLY DRIVERS

The standards for licensing the elderly and the specific actions required of a physician in response to an impaired elderly driver vary from state to state.[9] In Kansas, a vision and knowledge test is required every four years. While reporting is not mandatory in Kansas, The Department of Motor Vehicles can be enlisted to provide targeted comprehensive testing of identified elders. Alternatively, occupational therapists can provide full functional assessment, behind the wheel testing, and/or video simulation testing. Such objective evaluation can provide useful information and can remove the physician from the punitive role, thus preserving the physician-patient relationship.

THE ROLE OF THE MEDICAL PROVIDER

Given the above, medical providers need to be prepared both to identify those at risk for unsafe driving, and to assist those who can drive safely but may be in need adaptive change in personal skills or equipment. The ability of the medical community to become "enablers" instead of strictly "regulators", is important to the health and safety of the elderly as well as the general public.

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TABLE 1: MOTOR VEHICLE ADAPTATIONS FOR COMMON FUNCTIONAL DEFICITS

Functional Deficit	*Adaptive Equipment*
Upper extremity deficit	spinner knobs "joy stick" steering toggle switches or pads
Decreased grip strength	enhanced power assist change grip position from the 10 o'clock to 4 o'clock
Limited neck mobility	enlarged or "spot" mirror

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The prevalence of vascular disease risk factors: comparison of coronary versus peripheral artial disease

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THERE ARE SEVERAL DIFFERENCES IN atherosclerotic vascular disease of the lower extremity as compared to atherosclerosis of the coronary arteries. Atherosclerosis tends to develop first in the abdominal aorta and iliac arteries and later in the carotid and coronary arteries.[1] Disease of the lower extremity is more fibrous and less atheromatous than atherosclerosis in other locations, probably representing older more mature disease.[2] Consequently, lower extremity lesions are less likely to regress in response to lipid modification than lesions in other vascular beds.[3] Onset of angina tends to occur earlier in life than claudication. Large vessel peripheral arterial disease appears epidemiologically distinct from small vessel disease.[4]

Possibly, particular risk factors of atherosclerosis may be more closely associated with development of atherosclerosis at one particular site as opposed to another site. We performed a prospective cohort study to compare prevalences of risk factors among patients with peripheral vascular disease, coronary disease, and controls.

METHODS

In 1995-96, we surveyed a convenience sample of three outpatient groups at the Kansas University Medical Center: (1) patients with documented coronary artery disease in the absence of symptomatic carotid, cerebral, or lower extremity vascular disease, (2) patients with documented, symptomatic lower extremity or carotid arterial disease in the absence of current or past symptomatic coronary artery disease, and (3) controls consisting of patients with established non-vascular neurologic or neuromuscular disease in the absence of symptoms or history of coronary or peripheral vascular disease. The patient, the attending physician, and the medical record were all queried to establish the presence/absence of disease.

A standardized questionnaire was used to record age; gender; height; weight; family history of myocardial infarction, stroke, or vascular disease; current treatment of lipid disorders, diabetes mellitus, or hypertension; cigarette use; and leisure-time physical activity. Two cuff arterial blood pressure determinations during the same clinic visit were averaged. Non-fasting venous blood from each patient was used to measure total cholesterol, high density lipoprotein, and glycosylated hemoglobin.

Continuous variables are expressed as mean ± SD and compared using the Kruskal-Wallis test with Boneferonni post hoc testing. Risk factors were defined as follows. Presence of lipid abnormalities was defined as drug treatment or cholesterol$>$ 240 mg/dl, or high density lipoprotein $<$ 35 mg/dl. Hypertension required drug treatment, or systolic pressure$>$ 140 mmHg or diastolic pressure $>$ 90 mmHg. Diabetics required drug treatment or glycosylated hemoglobin $>$ 9 percent. Obesity was defined as BMI $>$ 28 for both sexes. Current smokers were identified by self report. Patients self-classified themselves as very active, active, somewhat active, or inactive. Prevalences are expressed in percentages and are compared using Fisher's exact test.

RESULTS

We studied 45 males and 24 females, aged 62 ± 12 years. Isolated coronary artery disease was present in 37, isolated peripheral vascular disease affected 12, and 20 had non-vascular neurologic/neuromuscular disease (controls). Of eight patient characteristics, only systolic and diastolic blood pressures differed among the three groups (Table 1). Importantly, as some patients were receiving antihypertensive, lipid modifying, or hypoglycemic drugs, the comparisons in Table 1 are less meaningful than the risk factor prevalences shown in Table 2. The majority of patients in all groups had hypertension and currently smoked cigarettes. The prevalences of lipid abnormalities and diabetes mellitus were both surprisingly high in all groups. Yet, the only risk factor to significantly differ in the three groups was the frequency of family members with myocardial infarction. This was highest in coronary artery disease patients and lowest in peripheral

Patient Characteristics

	n	Age (years)	BMI (kg/m^2)	SBP (mmHg)	DBP (mmHg)	TC (mg/dl)	HDL (mg/dl)	HbA1c (%)	Pack years
Peripheral	12	69 ± 13	27.4 ± 3.9	152 ± 18	84 ± 10	207 ± 54	48 ± 17	6.5 ± 0.9	29.9 ± 16.0
Cardiac	37	61 ± 11	29.0 ± 5.5	133 ± 18	77 ± 13	194 ± 41	42 ± 14	6.7 ± 1.7	40.2 ± 27.7
Control	20	59 ± 13	28.9 ± 5.7	141 ± 19	89 ± 14	209 ± 46	44 ± 19	6.5 ± 2.1	36.9 ± 41.0
P-value		0.08	0.68	0.009*	0.006*	0.41	0.49	0.91	0.73

Legend: BMI = body mass index (kg/m2); SBP = systolic blood pressure; DBP = diastolic blood pressure; TC = total cholesterol; HDL = high density lipoprotein; HbA1c = glycosylated hemoglobin.
Vertical line denotes significant pairwise differences.

artery disease patients (68 percent versus 33 percent respectively, p = 0.029).

DISCUSSION

Peripheral vascular disease is found in 10 percent of patients presenting with coronary artery disease. Conversely, 50-90 percent of patients with peripheral vascular disease have concurrent, but not necessarily symptomatic, coronary artery disease.[5] Compared to normal populations, those with atherosclerosis have significantly greater prevalences of cigarette smoking, high levels of low density lipoprotein cholesterol and triglycerides, low levels of high density lipoprotein cholesterol, diabetes mellitus, hypertension, and obesity.[4,6-11]

No previous study has compared risk factor prevalences directly between patients with peripheral versus coronary artery disease. We found the risk factor prevalences to be remarkably similar.

Our sample was small and thus limited in power to detect small differences. Patients with asymptomatic disease that affects both coronary and peripheral arteries were undoubtedly included - thus biasing the results toward no group differences. Recall and misclassifications biases are possible, but unlikely, since all patients had significant diseases that were currently under treatment. Risk factor prevalences in the control group were higher than those reported in other populations.

Atherosclerosis involves vascular beds widely and diffusely. Although anatomically distinct, coronary and peripheral arterial atherosclerosis do not differ importantly in occurrence of risk factors, in our small sample.

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A complete list of references for this article is available by calling Christine Schieferecke at 785.235.2383 or 800.332.0156.

Table 2

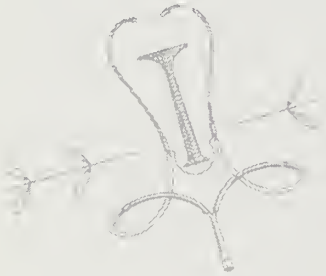
Risk Factor Prevalences

	Obesity	Hypotension	Lipid Abnormalities	Diabetes	Cigarette Smoking	FH-MI	FH-Stroke	FH - Leg	Sedentary
Peripheral	40%	75%	33%	42%	67%	33%	42%	11%	25%
Coronary	55%	70%	54%	27%	54%	68%	32%	15%	14%
Control	53%	75%	40%	15%	67%	35%	45%	15%	30%
P-value	0.742	0.908	0.363	0.246	0.672	0.029*	0.62	0.839	0.787

Legend:
FH-MI = family history of myocardial infarction
FH-stroke = family history of stroke
FH-leg = family history of lower extremity vascular disease
Vertical line denotes significant pairwise difference

Are immunization coverage rates for Kansas children improving?

Corrine Miller, PhD; Gianfranco Pezzino, MD, MPH; Steven R Potsic, MD, MPH



WE SEE SUBSTANTIAL DISEASE AND DISABILITY IN OUR PRACTICES EVERY DAY; BUT BY improving childhood immunizations, we have been fortunate to see dramatic decreases in vaccine-preventable diseases. Immunizations have been found to be essential in assuring the best possible disease prevention in children. Study after study has shown that to improve immunization rates, we need to take advantage of opportunities to vaccinate our children. This article shows that changes in policies, practices, and assessment tools have in fact improved immunization rates in Kansas, both in private practices and public clinics. However, even with the marked improvement, Kansas children still have lower immunization rates than in 23 other states. This makes the Standards for Pediatric Immunization Practices[1] even more important to eliminate vaccine-preventable diseases in children. Every physician serving children should strive to achieve these standards which include: utilizing all clinical encounters to screen and immunize children; using accurate and complete recording procedures; and periodically assessing immunization coverage levels.

BACKGROUND

There have been dramatic decreases in childhood vaccine-preventable diseases with rising vaccination levels. Complications such as meningitis due to Haemophilus influenzae b or diseases such as measles are now much more rare in the United States.[2] Although the United States has seen striking declines in the vaccine-preventable diseases of childhood, outbreaks still occur among unvaccinated and under-vaccinated children.

Kansas has had recent outbreaks of rubella and pertussis. Sporadic cases still occur too,[3] and it is known that unless childrens' coverage is maintained at high levels for a prolonged period of time, the potential for outbreaks still exist.[4]

For these reasons, full immunization of 90 percent of two-year-olds by the year 2000 has become a national priority.[5] For 1996, national immunization goals were that 90 percent of two-year- olds be vaccinated with one dose of measles, mumps and rubella vaccine (MMR);

Table 1. Kansas immunization coverage rates, by antigen 1990-91, 1991-92, 1992-93*

Antigen	1990-91 percentage up-to-date and 95% confidence interval	1991-92 percentage up-to-date and 95% confidence interval	1992-93 percentage up-to-date and 95% confidence interval
DTP-3	86.5 (85.6, 87.4)	87.5 (86.5, 88.5)	89.5 (88.8, 90.1)
DTP-4	59.0 (57.7, 60.3)	60.9 (59.5, 62.4)	65.9 (64.8, 67.0)
OPV-3	72.2 (71.1, 73.4)	74.4 (73.1, 75.6)	77.2 (76.3, 78.1)
MMR	83.5 (82.6, 84.5)	83.4 (82.3, 84.5)	84.8 (84.0, 85.6)
Combined (4-3-1)	57.9 (55.7, 58.3)	59.1 (57.6, 60.6)	64.3 (63.2, 65.4)
Combined (3-3-1)	68.4 (67.2, 69.7)	70.6 (69.2, 71.9)	73.6 (72.7, 74.6)

*** Based on the 1994-95, 1995-96, and 1996-97 retrospective immunization coverage surveys**

three doses of polio vaccine (OPV3); four doses of diphtheria, tetanus, and pertussis vaccine (DTP4); and three doses of Haemophilus influenzae type B vaccine (HIB3).

This report presents data on trends in immunization coverage rates for Kansas children, compares these data to national rates, and identifies methods and practice standards to increase immunization coverage rates for Kansas children. Results show a considerable improvement in the last five years. However, coverage rates in Kansas are still lower than in many other states and more attention to the practice standards is necessary.

Measuring immunization rates in a timely fashion to determine if national childhood immunization goals are being met among Kansas two-year-olds is difficult. Several surveys are used. The retrospective school survey measures vaccination coverage at the age of two of kindergartners attending public schools in Kansas. The data are therefore approximately three years out of date by the time they are collected since most children entering kindergarten are five years old. A good office assessment tool is the Clinic Assessment Software Application (CASA) survey which measures vaccination coverage of two-year-olds, including clients of both local health departments (LHDs) and private physicians offices. Annual CASA assessments provide more timely data so that policy and procedure changes can be made, as needed, to help increase immunizations. Finally, the National Immunization Survey

Table 2. Median Immunization Coverage Rates for Single Antigens, Two-Year-Olds Attending LHDs, 1994 - 1996 (CASA assessments)

Antigen	1994 Median (%)	1995 Median (%)	1996 Median (%)
DTP3	89	91	95
OPV3	75	87	94
HIB3	83	89	93
MMR	82	87	91
HBV3	na	10	42

ARE IMMUNIZATION RATES IMPROVING?

continued from page 43

(NIS) is a national telephone survey funded by the Centers for Disease Control and Prevention (CDC) that provides current, population-based coverage rate estimates for each state (children ages 19 - 35 months old are included).

RETROSPECTIVE SURVEYS

Methods

To conduct the retrospective survey, every year all Kansas public schools having kindergartens select a systematic random sample of children and send their immunization records to the Kansas Department of Health and Environment, after removal of personal identifiers.

The outcome of interest is the percent of kindergarten students who were up-to-date (UTD) at the time of their second birthday. A child is classified as UTD for single antigens, if by the age of two, he or she had received at least three or four doses of diphtheria, tetanus, pertussis vaccine (DTP3 and DTP4, respectively), three of polio (OPV3), or one of measles-mumps-rubella (MMR). For combined antigens, a child is considered UTD if he or she was UTD for all the single antigens mentioned above. Estimates of both county and statewide coverage rates and 95 percent confidence intervals (CI) are calculated.

Table 3. Median Immunization Coverage Rates for Single Antigens, Two-Year-Olds Seen at Physian Offices, 1994 - 1996 (CASA assessments)

Antigen	1994 Median (%)	1995 Median (%)	1996 Median (%)	1997 Median (%)
DTP3	40	59	77	89
OPV3	23	46	76	87
HIB3	37	51	73	84
MMR	24	46	73	76
HBV3	na	18	57	82

RESULTS

The retrospective survey has been repeated every year since the 1990-1991 school year. All 105 Kansas counties were represented in every survey. Annually, between 10,591 and 35,258 children's immunization records have been analyzed. Results for the three most recent years of the retrospective survey are shown in Table 1. In general, for single antigens and antigen combinations the percentage of Kansas two-year-olds who were UTD increased over time. Except for MMR, all of the changes between 1996-97 compared to 1994-95 and 1995-96 were statistically significant (as shown by the non-overlapping 95 percent CI for each antigen or antigen combination.)

Table 4. Immunization coverage rates at 2 years of age among Kansas children entering school in 1996-97, 1996 Kansas NIS coverage rates, and 1996 national goals

Vaccine	*Retrospective Survey (%) 1996-97 **	*Kansas NIS (%) 1996*	*National NIS (%) 1996*	*U.S. Goals (%) 1994*	*U.S. Goals (%) 1995*	*U.S. Goals (%) 1996*
DTP3	90	92	95	80	85	90
DTP4	66	78	81	-	-	-
OPV3	77	87	91	75	85	90
MMR	85	88	91	85	90	90
HIB3	-	89	92	75	85	90
HBV3	-	73	82	30	50	70
4:3:1	64	76	78	-	-	-

*Refers to children who were two-years-old in 1991-92

CASA SURVEYS

Methods

For every year since 1994, all 98 Kansas LHDs (covering 105 counties) are included in the CASA surveys. Children who are 24-35 months of age, and who had not moved or gone to another provider, are included in the study.

UTD vaccination coverage rates for single antigens and combinations of antigens are defined as explained in the section on the retrospective survey. However, hepatitis B vaccine (HBV) is also included in the CASA assessments. UTD status for HBV is considered as having three hepatitis B shots. Due to limitations in the survey methods, statewide coverage estimates cannot be calculated. It should also be emphasized that county CASA rates reflect immunization coverage only of children who receive immunizations and/or are seen at LHDs, and are not reflective of actual county rates as in the retrospective surveys described above.

In addition, CASA surveys have also been conducted in private physicians' offices from around the state. Between 1994 and 1997, ten offices (with multiple physicians) have served as pilot sites; eight of these sites participated for all four years. Calculation of UTD vaccination coverage rates were similar to those carried out in LHDs, although hepatitis B vaccination has been assessed since 1995 and DTP4 in 1997 only.

RESULTS

Coverage medians among LHD clients for each antigen are shown in Table 2. It should be noted that these medians do not represent any estimate of statewide coverage, as each median is the coverage rate achieved or exceeded by half of the LHDs in the state. The highest median coverage was for DTP3, with median coverage for the third hepatitis B (HBV3) shot being the lowest. Except for hepatitis B, which was not measured in 1994, the median coverage rate for all single antigens increased between 1994 and 1996. Continued improvement was also seen for the 3:3:1 combination, with 10 percent of LHDs achieving 3:3:1 coverage for 90 percent of two-year-olds in 1994 to 48 percent achieving such coverage for the 3:3:1 combination in 1996. (Data on coverage for the 4:3:1 series are not presented, as coverage rates for this series were not calculated in 1994.)

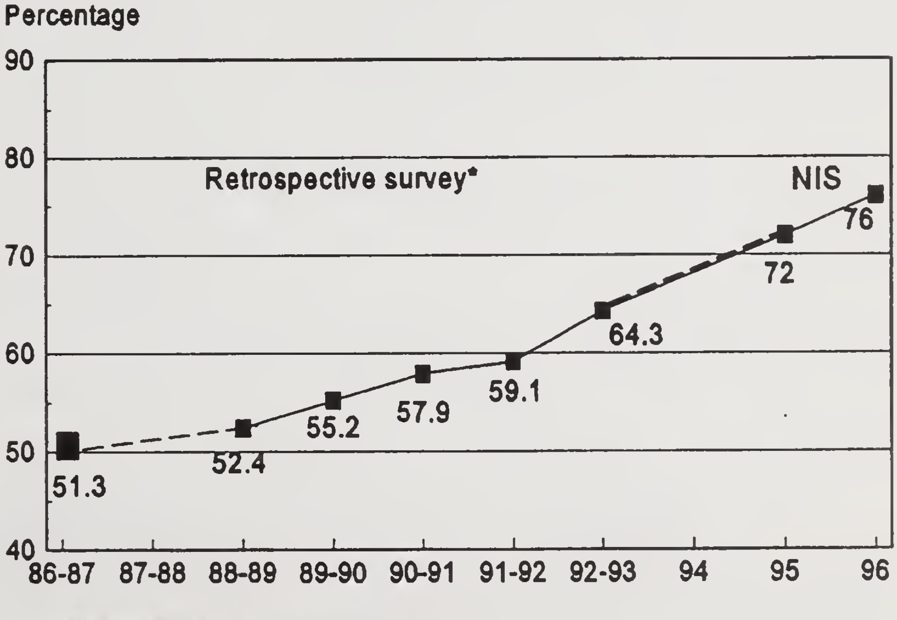
Among private physicians, median immunization coverage rates in the pilot sites improved dramatically between 1994 and 1997 (Table 3). As with data for LHDs, each median is the coverage rate achieved or exceeded by half of the physician offices. For all antigens coverage rates more than doubled or tripled over the four-year period. (Coverage rates for antigen combinations were not assessed until 1997, so data are not presented.)

NATIONAL IMMUNIZATION SURVEY

NIS 1996 estimates indicated that Kansas came close to, but did not achieve, most of the 1996 goals. Results of the 1996-97 retrospective survey (children who were two in 1992-93), 1996 Kansas NIS coverage estimates, and national goals are compared in Table 4.

Unfortunately, there are no data available from schools regarding coverage rates for HIB and HBV vaccines, because neither is currently required for kindergarten entry. These coverage rates are available from the NIS, however. As shown in Table 3, the 1996 goal was reached for HBV vaccine, but

Figure 1. Kansas Immunization 4:3:1 Coverage, Retrospective School Survey (1986/87-1992/93) and NIS Coverage Rates, 1995-1996



*September - August, 1986/87- 1992/93

ARE IMMUNIZATION RATES IMPROVING?

continued from page 43

not achieved for HIB. The table also shows how most NIS rates for Kansas are lower that those for the U.S.

Figure 1 shows the percentage of children UTD for the 4:3:1 combination for all years the retrospective survey was conducted, and for 1995 and 1996 from NIS. Each year, there has been an increase in statewide coverage rates for this combination of antigens.[6,7]

DISCUSSION

Results from the retrospective, CASA, and NIS surveys indicate increasing immunization coverage rates among Kansas two-year-olds for most single antigens or their combinations. Kansas achieved annual goals for most, but not all, single antigens. The median coverage for the 3:3:1 combination (CASA survey) and the coverage rates for the 4:3:1 combination also steadily increased (retrospective and NIS surveys). Increases in the coverage for combined antigens means that more Kansas children are protected against many of the vaccine-preventable diseases.

Although Kansas NIS coverage rates were higher than three of four neighboring states, coverage rates for Kansas were still less than 23 other states, indicating that Kansas physicians and other providers have to improve immunization services. KDHE staff, following each CASA assessment, give specific recommendations for improving coverage rates. These recommendations have included: using reminder-recall systems, improving record keeping through the use of a face sheet or identifying other methods to keep a child's immunization history in one section of the medical record; administering needed vaccines simultaneously; reducing invalid contraindications to immunizations; and taking the opportunity to review a child's immunization status at any visit to administer needed immunizations. Similar improvements are thought to be associated with increases in immunization coverage rates observed among LHD clients in Georgia.[8]

The KDHE Immunization Program has worked closely with physician offices to identify ways to improve immunization coverage rates. CASA assessments similar to those conducted at private provider pilot sites are available to all interested physicians.

SUMMARY

Measuring the coverage rate for the state and individual counties requires the use of a combination of techniques and surveys, whose results show concomitant trends (see Figure 1, a combined chart). Even though Kansas immunization coverage rates are improving, more effort is required to reach levels that will give reasonable confidence that there will be no vaccine-preventable disease outbreaks in Kansas children.

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Pediatric emergency department usage and the need for after-hours clinic care in Wyandotte County, Kansas

Lynne Susan Powell, MD and Pam Shaw, MD

MANY ATTEMPTS HAVE BEEN MADE BY INSURERS AND HOSPITALS TO CONTROL THE COST of medical care by regulating access to emergency department treatment.[1] Treatment of non-life threatening complaints in the emergency department is much more expensive to the health care consumer than the same treatment would be in a clinic setting. It also distracts emergency department staff from critical care cases and undermines primary health care, as it does not provide for follow up and further investigation of medical issues.[2]

Research done by Beusching et al in Rockford, Illinois concluded that urban populations were more likely than other groups to use emergency department services inappropriately.[3] They also noted that as the number of primary care physicians in Rockford increased, the number of Emergency visits declined.[4] Data about the number of primary care physicians available to the urban population were not included. This information may suggest that urban populations have fewer primary providers, and consequently, fewer options for obtaining health care.[5]

In Kansas City, Kansas, there is only one pediatric clinic that is open in the evening. It is offered by the University of Kansas Medical Center one night per week and is available to patients of the Medical Center only. Several pediatricians and family practitioners have office hours on Saturday. This apparent shortage of primary care options presents a problem for people who work during the day or are unable to see a health care provider during business hours.

The purpose of this investigation was to determine if emergency department personnel and the parents of pediatric patients perceived a need for after-hours clinic services in Wyandotte County and, if so, how those services should be provided.

Material and Methods

Three questionnaires were developed by the authors and exempted from approval by the Human Subjects Committee of the University of Kansas Medical Center.

The questionnaire for the directors of the emergency departments was used in individual interviews with them. (Figure 1)

AFTER-HOURS CLINIC CARE

continued from page 47

The questionnaire for medical and nursing staff (Figure 2) was presented to emergency department staff, including doctors, nurses, nurse's aides, clerks, and admitting staff.

The parent questionnaire (Figure 3) was presented verbally to parents of children with non-urgent complaints. Children arriving by ambulance, with urgent medical problems were excluded. One patient from DeSoto, Kansas was excluded, as DeSoto is a rural community approximated 20 miles from Wyandotte County. Two patients from Johnson County, Kansas and two patients from Jackson County, Missouri were included in the survey because they lived in the neighborhood of the University of Kansas Medical Center, and would use Wyandotte County after-hours care facilities.

Information was gathered at Bethany Medical Center and the University of Kansas Medical Center between 23 April 1993 and 9 May 1993 between the hours of 5 p.m. and midnight. Interviews were conducted in the participating emergency departments.

SUBJECTS

Thirty people responded to the questionnaire for medical and nursing staff. Six respondents were doctors, 18 were Registered Nurses, and five were other support staff. Fifteen questionnaires were completed by staff at Bethany Medical Center and 15 were completed by staff at the University of Kansas Medical Center.

A total of 22 subjects were approached, of whom 21 were interviewed.

RESULTS

Medical and nursing staff

Of the 30 people who answered the questionnaire for medical and nursing staff, 29 thought that there was a need for an after-hours pediatric clinic.

Seventy-six percent of the respondents cited cost-effectiveness as a reason to provide an after-hours clinic.

Table 1
Desired Times for Weekday Clinic Operation

	24 Hours	5 pm to 8 pm	5 pm to 10 pm	5 pm to midnight	5 pm to 2 am	All night	Totals
Staff	4		5	12	6	2	29
Parents	19	3	5	3	3	9	42
Totals	23	3	10	15	9	11	71

Table 2
Desired Times for Weekend Clinic Operation

	24 Hours	Noon to 8 pm	Noon to 10 pm	Noon to Midnight	Noon to 2 am	Totals
Staff	8	3	5	7	5	28
Parents	33	4	0	2	3	42
Totals	41	7	5	9	8	70

Table 3
Fee Preferences

	None	$1.00	$2.00	$5.00	$10.00	Fee Basis	Totals
Staff	1	0	5	13	8	2	29
Parents	1	9	9	13	7	3	42
Totals	2	9	14	26	15	5	71

Eighty-three percent felt an after-hours clinic would allow emergency department staff to focus on true emergencies and 83 percent thought that continuity of care would be a benefit of such a clinic. One Registered Nurse also noted that a clinic would provide a less frightening milieu for children.

Thirty-six percent of the respondents thought that finding an appropriate facility would be a problem and 50 percent thought staffing would also be a problem with a clinic. Security and loss of emergency department revenue were seen as problems by 30 percent of respondents. The cost of providing clinic services was seen as a problem by 57 percent of those answering the questionnaire.

Medical and nursing staff were asked to choose one or more of the best locations for an after-hours clinic. Seven percent found Wyandotte County Health Department to be suitable, while 53 percent considered the University of Kansas Medical Center suitable. Bethany Medical Center and Providence Medical Center were considered suitable by 6 percent. Twenty percent offered other suggestions for the clinic's location. Eight percent of the respondents did not respond to this question.

Monday through Friday hours

Six percent of those responding to the questionnaire for medical and nursing staff felt the clinic should be open all night, but not during business hours. Thirteen percent thought that the clinic population would be best served by a 24 hour clinic. None of the respondents felt that a clinic open from 5 p.m. to 8 p.m. would be useful. The hours of 5 p.m. to 10 p.m. were considered appropriate by 17 percent. Forty percent thought that the clinic should be open from 5 p.m. to midnight. Twenty percent preferred the hours from 5 p.m. to 2 a.m.

Weekend hours

Twenty-seven percent of medical and nursing respondents thought that the clinic should be open 24 hours a day on weekends. Ten percent thought it should be open from noon to 8 p.m., 17 percent noon to 10 p.m. and noon to midnight, and 20 percent thought it should be open from noon to 2 a.m. on weekends. One person proposed 11 a.m. to midnight, and one did not answer this question.

Medical staffing

Thirty percent of those answering the questionnaire for medical and nursing staff felt that the clinic should be staffed by a small group of doctors, while 43 percent preferred a large group. Twenty-seven percent (n=8) did not answer this question.

Security

Sixty-seven percent thought that a security guard should be available at all times, while 20 percent felt that telephone access to security would be sufficient. Thirteen percent (n=4) did not answer this question.

Nursing staffing

The number of nurses needed to staff this clinic was seen by 5 respondents (17 percent) as a function of the size of the clinic. The other 22 respondents said that numbers between 1 and 7 nurses would be sufficient. Three did not answer.

Ancillary services

Seventy percent of respondents thought that an after-hours clinic would need a secretary. Seventy-three percent thought there was a need for housekeeping services and 47 percent thought there was a need for a respiratory therapist. Phlebotomy and pharmacy services were mentioned in the unspecified category.

Radiology and laboratory services

Thirty-three percent of the staff surveyed felt that laboratory and x-ray services should be available withing an after-hours clinic. Fifty-seven percent thought that the clinic should be located in a hospital, and these services should be provided by the hospital. Twenty percent thought that non-urgent patients should be given outpatient referrals for these services and 10 percent thought that patients requiring such services should be referred to an emergency department. Some respondents gave more than one answer to this question.

Fees

One respondent (3 percent) believed that no fee should be charged for after-hours clinic services. Seventeen percent favored a fee of $2.00. Forty-three percent favored a $5.00 fee and 30 percent favored a $10.00 fee. Seven percent preferred that payment be determined on the basis of what services were rendered.

Reasons for ER visits

Twenty-five respondents (83 percent) believed that transportation was an important reason for inappropriate use of emergency department facilities after-hours. Eighteen people (60 percent) felt the parents' hours of employment were the most important factor in this regard. Thirteen (43 percent) thought availability of babysitting services for the parent's other children was important. Other reasons were thought to be convenience, lack of a primary care physician, desire to receive services without having to pay

AFTER-HOURS CLINIC CARE

continued from page 49

immediately, and ignorance of what pediatric conditions require immediate treatment.

Parent responses

Forty-two parents answered the parent questionnaire. The ages of the patients ranged from 7 weeks to 16 years. The mean age was 3.9 years. Eighty-five percent of the patients were from the urban area in the vicinity of Bethany Medical Center and the University of Kansas Medical Center. Two patients each from west Wyandotte County, Jackson County, Missouri, and Johnson County, Kansas were included.

Immunizations and primary health care

Twenty-nine (69 percent) of the patients received their immunizations at a private doctor's office, and 13 (31 percent) at the Health Department.

Thirty-four (81 percent) of the patients received routine health care and well-child care at a private doctor's office. Three (7 percent) received this care from the health department. Two children received no routine care, one got only the health screenings available at WIC appointments, and one used the emergency department at Bethany Medical Center for all health care.

Reasons for emergency department visits

When questioned about when they first noticed their child was sick or injured, the answers ranged from one month ago to immediately prior to the visit. When asked why they chose this time to bring the child to receive medical attention, 40 (95 percent) cited persistence or worsening of the child's condition. One mother came after-hours because her grandmother told her to do so, one because her pediatrician told her to go to the emergency department, one arrived after-hours because she and the child had walked a long distance to get to a health care provider, and one could not say why she came at the time she did. None mentioned hours of employment or availability of baby-sitting as reasons for after-hours visits.

Insurance coverage of patients

Twenty-six (62 percent) of these patients had Kansas Medicaid insurance. Six (14 percent) had private insurance and 10 (25 percent) had no insurance coverage.

Perceived usefulness of an after-hours clinic

Forty-one (98 percent) of the parents said that they would have used an after-hours clinic if one were available.

Clinic location

Six (20 percent) of the parents felt that the best location for an after-hours clinic would be at the Wyandotte County Health Department. Eight (27 percent) preferred the University of Kansas Medical Center as the best location. Nine (30 percent) favored Bethany Medical Center for the after-hours clinic. Eight (27 percent) offered combinations of the previously mentioned institutions as possible sites, and 3 wanted the clinic to be located at Providence Medical Center. Southwest Blvd., Third St. in Kansas City, Kansas, and Bonner Springs were also suggested.

Monday through Friday hours

Forty-five percent of the parents interviewed said that they would like this clinic to be open 24 hours a day from Monday through Friday. Twenty-two percent thought it should be open all night but not during the day on those days. Seven percent felt that 5 p.m. to 8 p.m. would be useful hours. Twelve percent favored 5 p.m. to 10 p.m. Five in the evening to midnight and 5 p.m. to 2 a.m. each were considered to be the best hours by 7 percent.

Weekend hours

A clinic that would be open 24 hours a day on weekends was preferred by 78 percent of the parents answering the questionnaire. Ten percent favored noon to 8 p.m. and 5 percent favored noon to midnight. Seven percent considered noon to 2 a.m. To be the best hours on weekends. One respondent thought that this clinic should only be open in the mornings on Saturday and Sunday.

Medical staffing

Ninety-five percent of the parents preferred to see a small group of doctors rather than a large group (5 percent). Twelve percent of the parents said they would feel comfortable in an after-hours clinic with only local police protection. Twenty-eight percent preferred that a security guard be present in the building and 43 percent preferred a guard in the clinic area. Five people suggested a combination of two or all three of the options presented in the questionnaire. One person had no opinion.

Fees

One respondent (2 percent) felt that any after-hours services should be free. Twenty-one percent each favored fees of $1.00 and $2.00. Thirty-one percent felt that they would be willing to pay a $5.00 fee and 17 percent would pay a $10.00 fee. Seven percent said that the fee should vary with the value of the service provided.

DISCUSSION

Access to health care is a complicated and multi-faceted issue. In the context of this study, the availability of routine, non-urgent care to the urban population is considered.

Most of the children represented by this survey were able to receive health care. Only four children of the 42 in the survey were without a primary care provider, but this is 9.5 percent of the subjects surveyed. This number may or may not be representative of the number of children without access to health care in urban Wyandotte County. A study of a much larger group in this population would be necessary to ascertain if this is true. Other evidence from this study does, however, point to this same conclusion. Twenty-five percent of health care providers and 45 percent of parents of patients stated a need for a clinic that would be open at all times. This implies a need for more than simply after-hours services.

If, in fact, 10 percent of the children in urban Wyandotte County have inadequate access to health care, parents and providers see a need for more primary care resources and 90 percent of this population is either insured by Medicaid or uninsured, it is possible to draw the tentative conclusion that there is a shortage of primary care providers, both pediatricians and family practitioners, in the area who will accept Medicaid and indigent patients.

This conclusion is supported by recent data available on the rates of immunization in Wyandotte County. The percentage of children who are 2 years old and are fully vaccinated is abysmally low, and is the lowest in any county in the State of Kansas. The retrospective data give numbers somewhere in the range of 31 percent of children to be fully immunized at age 2 in Wyandotte County.[6] Low immunization rates correlate strongly with inadequate health care.[7] According to Fairbrother et al, children who were incompletely immunized were 11.8 times more likely not to be screened for anemia when compared with fully immunized children, and they were 8.7 times more likely not to be screened for lead.

According to Shaw et al,[8] the two groups most likely to use emergency department services inappropriately were Medicaid patients and children under five years old. This conclusion was supported by this study, in which 65 percent of the patients were covered by Medicaid and 25 percent were uninsured. The mean age of the patients represented in this survey was 3.9 years. This also agrees with Shaw's research.

While all but one of the parents cited medical reasons for their decisions to seek care in an emergency department, all of the health care providers felt that the major motivation for use of the emergency department after-hours was not medical. Financial reasons, transportation and ignorance of how to use health care resources appropriately were among the reasons. It may be that this population is unaware of which pediatric medical conditions require emergency treatment. A modestly priced clinic that was open at convenient times would address some of the concerns raised by health care providers, and could serve to educate parents and give advice about when emergency care is necessary and when it is not.

The benefits of providing health care in a clinic setting rather than in the emergency department were perceived by health care workers responding to this survey. The major benefit was cost-effectiveness. Currently, only 12 percent of charges billed to Medicaid by the emergency department of the University of Kansas Medical Center are actually paid by Medicaid. Many of these charges are denied because they are not "emergencies", but would be reimbursed in a clinic setting.

Appropriate use of emergency department staff and continuity of patient care were also prominent concerns voiced by those responding to the staff questionnaire.

Shaw found that patients without a relationship with a primary care provider used emergency facilities inappropriately and that some of these patients were lost to follow up. This occurred with such serious diagnoses as "suspect child abuse."[9]

In a relationship between a patient, a family and a provider, the responsibilities of the provider are fairly clearly defined. The responsibilities of the patient and family are minimized by delivery of health care through a large, impersonal institution such as an emergency department. The family may be asked to give a medication to a child on a certain schedule, but there is no mechanism in this system by which the family and the patient are held accountable for this responsibility or other health maintenance measures. In a clinic setting, patients and families establish a relationship with a provider. Families and patients may have a greater motivation to follow the advice of a practitioner if that same practitioner will be monitoring the patient's progress. In the same way, patients and families may feel a greater responsibility to see that fees for services are paid when they see the provider as a person with whom they have a business and social relationship rather than an institution that was presumably

AFTER-HOURS CLINIC CARE

continued from page 51

established to serve them. For this reason, parents and providers were asked if they felt a fee for services was appropriate. Ninety- seven percent of those questioned felt that it would be, and there was no significant difference in how much these groups thought appropriate.

Most providers and patients preferred a $5.00 fee for clinic services. This is an amount of money that is accessible to most people. It is not difficult to understand why people think that health care is not something for which you have to pay, when every fee they see for any medical service is bigger than their weekly paycheck.

Of course, if the fees of a clinic are kept low, some other source of funding will have to pay the real cost of providing health care. Discussion of these sources is beyond the scope of this study. Several attempts have been made to lure non-critical patients away from emergency departments and into primary care settings. The study done in Philadelphia was terminated because there were not enough primary care options available to that population to ensure that patients being turned away from the Emergency Room were getting appropriate medical care in other places.[10] A similar study, done by Dislet and Nishio in 1990[11] was quite successful in routing nonurgent patients away from the emergency department. Unfortunately, children under 15 years of age were excluded from the study, so it is impossible to know if properly screened pediatric patients can be referred to outpatient resources when the patient may have to wait until the next day for treatment.

If it were possible to provide clinic care for all non-urgent patients, the patient load on area emergency departments could decrease, and this might make feasible the possibility of regional emergency departments. This would cut the costs of emergency care by preventing duplication of expensive services within the region.

While the need for an after-hours pediatric clinic is seen clearly in this study, the actual logistics of providing the clinic were not clearly delineated. Opinions about the location of this clinic were split between the Wyandotte County Health Department, Bethany Medical Center, and the University of Kansas Medical Center. Forty-five percent of the health care providers surveyed felt that the clinic should be located on the premises of a hospital. This would make laboratory and radiology services accessible if they were needed.

A need for security services was seen, as was the need for secretarial and housekeeping workers.

While medical and nursing staff felt that the biggest problem with providing an after-hours clinic was the cost, staffing could also present a problem in that parents of patients overwhelmingly preferred to see a small group of doctors, while only 45 percent of providers favored this.

The conclusions from this study were drawn cautiously because the samples were small and somewhat skewed toward the opinions of parents of patients at Bethany Medical Center as 28 of the patients were seen at Bethany Medical Center and only 14 were seen at the University of Kansas Medical Center. Moreover, the samples did not include suburban or rural Wyandotte County, but only its urban population.

From the data presented here, it is clear that more research into the perceptions of patients and families of their responsibilities in the health care relationship is necessary.

If a clinic that would provide 24 hour services is to be considered, more data about the number of children in this population who receive no regular health care should be obtained.

Further research into where such a clinic should be may be helpful.

CONCLUSIONS

There is a perceived need for an after-hours pediatric acute care clinic in urban Wyandotte County, and there may be a need for a clinic that could provide health care at all times of the day and night. Regardless of other considerations, the biggest problem in establishing such a clinic is the cost of the endeavor. Ways of financing a primary care clinic for pediatric patients in urban Wyandotte County will have to be explored to meet this need.

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A complete list of references for this article is available by calling Christine Schieferecke at 785.235.2383 or 800.332.0156.

Copies of the patient questionnaire and the medical and nursing staff questionnaire are available by calling Christine Schieferecke at 785.235.2383 or 800.332.0156.

High frequency oscillatory ventilation in severe acute asthma

Sumit Bhargava, MBBS; Robert H Ardinger, Jr, MD;
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SEVERE ASTHMA EXACERBATION IS A common cause for emergency room visits, hospitalization, and occasionally death in children. Patients who progress to respiratory failure require endotracheal intubation and mechanical ventilatory support. The use of mechanical ventilation, however, is often associated with significant barotrauma due to the high ventilatory pressures needed to maintain a satisfactory PaCO2. Alternative strategies designed to facilitate ventilation in a patient with severe asthma have included the use of CPAP and PEEP.[1,2,3] High frequency ventilation has not been previously used, to the best of our knowledge, to manage children with severe acute asthma. In this report we present a case in which HFOV was used to successfully ventilate a patient in severe respiratory failure secondary to asthma exacerbation. The rapidity with which HFOV normalized the PaCO2 strongly suggests a therapeutic role for this treatment modality in select cases of severe respiratory failure due to asthma exacerbation.

CASE HISTORY

A five year old African-American girl with a history of asthma since the age of two years was brought to the emergency room with severe asthma exacerbation. This was her fourth recurrence and hospital admission within four months. The patient's medications included nebulized ipratropium bromide with cromolyn sodium every 8 hours, nebulized albuterol as needed, and prednisolone every other day. In the emergency room the patient had a heart rate of 164 beats per minute, and a respiratory rate of 36 breaths per minute. Her SaO2 on room air was 86 percent. She looked anxious and fearful, was unable to speak, and had prominent nasal flaring as well as supra clavicular, intercostal and subcostal retractions. She had minimal bilateral air entry on auscultation. The patient received 2 mg/kg of methylprednisolone, 100 percent 02 by facemask, and was initiated on 15 mg of continuous nebulized albuterol per hour and was transferred to the PICU.

SEVERE ACUTE ASTHMA

continued from page 53

Table 1.

	Conventional Ventilator	Conventional Ventilator	HFOV (ABG at 30')	HFOV (ABG at 90')
PIP (cm H2O)	40	47	-	-
PEEP(cm H2O)	6	4	-	-
Rate	30	30	-	-
I:E Ratio	1:1	1:2	1:2	1:2
HFOV MAP	-	-	23	23
Hz	-	-	5	5
Amplitude	-	-	87	65
FiO2	1.0	1.0	1.0	**0.5**
pH	6.8	6.95	7.24	**7.37**
PaCO2 (torr)	197	154	57	**41**
PaO2 (torr)	118	323	407	**154**

Three hours after admission the patient became unresponsive and flaccid with a marked decrease in air exchange. She was emergently intubated and placed on a pressure limited ventilator (Servo 900c, Siemens Medical Systems, Danvers, MA). After trials of varying ventilator settings, IPPV was established at a rate of 30 breaths per minute, PIP of 40 cm H20, PEEP of 6 cm H20, FiO2 of 1.0, and an I:E ratio of 1:1. A continuous isoproterenol infusion at 0. I mcg/kg/minute as well as a continuous aminophylline infusion at 1 mg/kg/hour were initiated. The first post-intubation ABG drawn from an indwelling radial artery catheter showed a pH of 6.80 with a PaC02 of 197 torr and a PaO2 of 118 torr. The PIP was subsequently increased to 47 cm H20 with a PEEP of 4 cm H20. The I:E ratio was increased to 1:2. An ABG following the ventilator changes revealed a pH of 6.95, PaC02 of 154 torr, PaO2 of 323 torr.

The patient was then placed on HFOV (Sensormedics 2100A, Sensormedics Corp, Yorba Linda, CA) with a MAP of 24 cm of H20, amplitude of 87, IT of 33 percent, and a frequency of 5 Hz with an FiO2 of 1.0. The patient also received an IV infusion of 500 mg of magnesium sulfate. Within 30 minutes of initiating HFOV, the ABG measurements showed a pH of 7.24, PaC02 of 57 torr, PaO2 of 407 torr. The patients ABG normalized within 90 minutes, with a pH of 7.37, PaC02 of 41 torr, and PaO2 of 154 torr at an FiO2 of 0.5, amplitude of 65, and a MAP of 24 cm H20. The patient was returned to conventional ventilation on the fourth day of admission, extubated on the seventh day, and subsequently discharged home.

DISCUSSION

The challenge of mechanically ventilating a patient with severe acute asthma involves maintaining acceptable ventilation with moderate hypercapnea while limiting the risks of barotrauma. An age appropriate respiratory rate and tidal volume is established initially. Ventilator settings include a prolonged I:E ratio varying from 1:2 to 1:6 in order to minimize further hyperinflation.[4] Nevertheless, the addition of positive pressure may augment hyperinflation, decrease lung compliance, impede pulmonary venous return, and decrease cardiac output.[5,6] Certain studies, however, have reported that CPAP up to 10 cm H20 in non-ventilated asthmatics may reduce the work of breathing, and ultimately the PaC02.[2,3] Moreover, Qvist reported that PEEP of up to 25 cm H20 can combat severe air trapping and facilitate mechanical ventilation in severe acute asthma.[1] Thus the use of positive pressure in select patients may help stent the airways open, reducing airway obstruction and allowing improved air flow and gas exchange.

The role of HFV in the treatment of severe asthma exacerbation in children has not been established. Several studies examined HFJV and concluded that HFV is contraindicated in obstructive pulmonary diseases such as asthma.[7,8,9]

Bancalari, however, demonstrated decreased gas trapping in adult rabbits using HFOV when compared with HFJV.[10] The reduction in air trapping was thought to be the result of the active expiratory phase of HFOV. HFOV, therefore, may act like PEEP in select patients with severe obstructive airway disease, maintaining airway patency and ventilation, while avoiding increased air trapping. In our patient with severe respiratory failure secondary to asthma exacerbation, HFOV brought about a prompt improvement in alveolar ventilation. While we cannot exclude a contributory role attributable to the concurrent therapies, we feel that HFOV played a major role in this child's recovery. Further evaluation of HFOV in the treatment of respiratory failure associated with asthma exacerbation is warranted.

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Urban-rural differences in Medicare in Kansas

Kazim Sheikh, MD and Claudia Bullock

When first implemented in 1966, the Medicare legislation provided health insurance coverage for most U.S. citizens aged 65 years or over. In 1973, legislation extended coverage to the chronically disabled, most persons with end-stage renal disease, and ineligible persons who elect to buy into the program. Part A of Medicare, also known as hospital insurance, reimburses participating institutional providers for the inpatient hospital, skilled nursing facility, home health, and hospice services. Part B benefits are optional and cover physician services in any location, diagnostic services, selected drugs, medical products and supplies, and remedial therapies.

Although the risk-sharing Medicare contract options for health maintenance organizations (HMOs) were introduced in 1972, there were only five HMOs in the country with such contracts in 1985. Since then, enrollment in HMOs has sharply increased every year. As of June 1, 1997, approximately 14 percent of all Medicare beneficiaries were enrolled in managed care plans. Between 10 and 15 percent of Medicare beneficiaries have dual eligibility, that is, they are eligible for Medicare and Medicaid coverage. For most dually eligible beneficiaries, the Medicaid coverage pays for the Part A and B services not covered by Medicare and for various cost-sharing requirements for the covered services.

There are regional, inter-state, and intra-state variations in the HMO coverage and health care utilization both in the managed care and fee-for-service sectors. As expected, there are marked differences between urban and rural areas of the country with respect to the distributions of health care providers and utilization.[1] This paper describes the characteristics of Medicare beneficiaries, their utilization of medical care, the providers of service, and selected outcomes in the calender year 1995 in the State of Kansas.

METHODS

The Health Care Financing Administration's (HCFA) administrative data were used for this descriptive study. In order to examine urban-rural differences, the Medicare population in

Kansas was divided in three roughly equal groups according to the density of the beneficiary population in the county of residence. Four counties with more than 20,000 Medicare beneficiaries residing in each were arbitrarily regarded as the urban counties. Twenty counties, each having 4,000 to 20,000 beneficiaries living in them, were regarded as the semi-rural counties, and the remaining 81 counties were the rural counties. Of the 402,879 subjects enrolled in Medicare any time during 1995, 154,823 (38.4 percent) resided in the four urban counties, 124,158 (30.8 percent) resided in 20 semi-rural counties, and the remaining 123,898 (30.8 percent) resided in the rural counties.

Dual eligibility was established by matching the Social Security Numbers (SSNs) in HCFA's Medicaid Statistical Information System with SSNs in the Medicare Denominator Files and/or indication in the denominator file of the state "buying-in" services covered by Medicare for which the beneficiary could not pay. Since more than 98 percent of the Kansas population aged 65 and over were enrolled in Medicare in 1995, the state vital statistics and estimates supplied by the Kansas Department of Health and Environment and the U.S. Bureau of Census were used to study the time trends in mortality. The ICD-9-CM codes for diagnoses and procedures were used in the analyses of Part A services utilization and CPT-4 codes for procedures were used in the analysis of Part B services.

The health care utilization data on the Medicare beneficiaries enrolled in HMOs available to HCFA were incomplete. Consequently, the utilization analyses were restricted to the beneficiaries covered in the fee-for-service (FFS) sector. The measures of utilization were stratified according to the counties of residence of the beneficiaries, not the location where the services were provided. So that, a claim from a provider located in an urban county for services provided to a beneficiary residing in a semi-rural county was counted among the claims for the semi-rural counties. Physicians and other practitioners in Kansas who filed at least one claim which was paid were counted as providers of health care in Medicare program. Their location was determined by the ZIP code of the place where the services were performed. Those physicians and practitioners who provided services in more than one county category were counted in each category. Consequently, the total number of providers of specific type in all county categories appear greater than the actual number of providers in 1995.

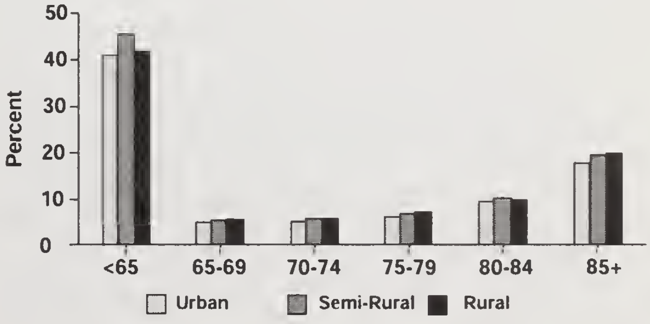
The direct standardization method was used to adjust for age and sex differences between groups. The statistical significance of the differences between proportions and means or averages were tested by the Chi-square test and the t-test respectively.

BENEFICIARY POPULATION

In 1995, 169,798 males and 233,081 females in Kansas were eligible for Medicare. Of this cohort of 402,879 beneficiaries, 28,282 (7.0 percent) were non-white Americans mostly residing in the metropolitan areas, and 12,459 (3.1 percent) were enrolled in HMOs. Nearly 10 percent of the FFS beneficiaries were under the age of 65; they were either chronically disabled or they had end stage renal disease requiring dialysis or kidney transplant. Medicare beneficiaries aged 65 and over residing in Kansas were a little older than the beneficiary population of the United States in the same age group; the difference between the age distributions is statistically significant (p<0.001). The mean ages of the beneficiaries residing in the urban, semi-rural, and rural counties were 72.1, 73.3, and 74.3 years respectively. The differences between the mean ages are statistically significant (p<0.001).

In 1995, 11.5 percent of all Medicare beneficiaries in Kansas were also eligible for Medicaid. The highest proportion of the dually eligible beneficiaries were in the under 65 age group (Figure 1). Among the beneficiaries aged 65 and over, the frequency of dual eligibility increased with age; and in any age-group, the percentage of dually eligible beneficiaries was significantly lower in the urban counties than in the other counties (p<0.05).

Figure 1. Age-specific percentage of Medicare beneficiaries who were dually eligible according to the beneficiary population density in the counties in Kansas, 1995



URBAN-RURAL DIFFERENCES IN MEDICARE IN KANSAS

Continued from page 57

From 1985 to 1995, there was a 10.5 percent gradual increase in the Medicare beneficiary population of Kansas aged 65 and over. This population growth was restricted to only 24 urban and semi-rural counties. The rate of age-specific mortality has remained unchanged during this period. However, the gender gap (male higher than female) in the rate of mortality has narrowed over the years.[2] The leading causes of death in the elderly population of Kansas were the same as those for the U.S. population — heart disease, cancer, stroke, chronic obstructive pulmonary disease, pneumonia and influenza.[2]

PROVIDERS OF HEALTH CARE

Table 1 shows the numbers of provider facilities in Kansas which participated in Medicare in 1995. The number of acute care hospitals, irrespective of their bed size, long-term care institutions, and home health agencies per 100,000 beneficiaries was higher in the rural counties and lower in the urban counties than those in the semi-rural counties. There were considerably fewer hospices in the four urban counties. As expected, there were no rural health clinics in the urban counties. Altogether, there were 10 physicians — general practitioners and specialists — for every 1,000 beneficiaries in Kansas who filed at least one claim in 1995. However, their distribution varied according to the Medicare population density in the state — 16.3, 10.2, and 5.3 per 1,000 beneficiaries in the urban, semi-rural, and rural counties respectively. Except for the general practitioners and psychiatrists, there were more physicians in the urban counties and less in the rural counties than the semi-rural counties. The number of independent nurse practitioners per 10,000 beneficiaries were highest in the rural counties and lowest in the urban counties. Just as the specialist physicians, the number of clinical psychologists and chiropractors were highest in the urban counties and lowest in the rural counties (detailed data available on request).

HEALTH CARE UTILIZATION

As expected, health care utilization in terms of the number of claims for virtually all types of services covered by Medicare increased with age among beneficiaries aged 65 and over (data available on request). Table 2 shows the age-adjusted number of claims per 100 beneficiaries for major types of services provided in 1995 and the cost of an average claim in relation with the beneficiary population density. The number of claims

Table 1. Number of health care providers in Kansas per 100,000 Medicare beneficiaries according to the beneficiary population density, 1995

	Counties			
Providers	Urban	Semi-rural	Rural	All
Acute care* hospitals	20.7	29.8	70.2	38.7
Long-term care	61.4	118.4	156.6	108.2
Home health agencies	31.0	40.3	66.2	44.7
Laboratories & X-ray	69.1	61.2	54.9	62.3
Physical medicine and rehabilitation	8.4	4.0	3.2	5.5
Hemo dialysis	5.8	8.0	4.8	6.2
Intermediate care & mental retardation facilities	10.3	28.2	12.9	16.6
Rural health clinics	0.0	26.6	80.7	33.0
Hospices	3.2	8.9	8.0	6.4
Other	13.6	2.4	3.2	6.9
All	223.5	327.8	460.9	32 8.6

* Short-term primary, secondary, and tertiary care

Table 2. Age-adjusted number of claims in 1995 per 100 Medicare beneficiaries residing in Kansas and average cost per claim according to the beneficiary population density in the counties of residence

	Counties		
Type of Service	**Urban**	**Semi-rural**	**Rural**
All Part A Services	87.1* ($3,227)	79.2 ($2,810)	78.5 ($2,878)
Inpatient	33.2 ($6,212)	33.8 ($5,166)	37.5* ($4,990)
Skilled Nursing	9.05* ($3,306)	7.96 ($2,371)	8.96* ($1,929)
Home Health Agencies (Part A)	40.7* ($921)	34.7 ($730)	30.3* ($712)
Hospice	5.18* ($1,362)	2.68 ($1,604)	1.70* ($1,597)
All Part B Services	1829 ($22.58)	1835 ($22.92)	1824 ($26.40)
Outpatient	216* ($191)	335 ($125)	499* ($96.10)
Home Health Agencies (Part B)	1.31* ($100)	2.51 ($48.95)	2.34 ($102)

Costs per claim are given in parentheses

* Significantly different from the number of claims for the same type of service provided in the semi-rural counties ($p<0.001$).

for all Part A services were significantly higher and the number of claims for Part B services provided by the home health agencies (HHAs) were significantly lower in the urban counties than those in other counties. The number of all hospital claims for inpatient and outpatient services were higher in the rural counties than those in other counties. As compared to the semi-rural counties, the number of claims for services provided by skilled nursing facilities, HHAs (Part A), and hospices were higher in the urban counties and lower in the rural counties.

Table 3. Age-adjusted in-patient hospital days per 100 Medicare beneficiaries aged 65 and over according to sex and the county of residence in Kansas, 1995

Counties	Short stay		Long stay	
	Males	Females	Males	Females
Urban	203.0	199.8	20.71	25.12
Semi-rural	204.4	194.8	6.47	7.69
Rural	212.9	198.2	17.52	9.67
All	206.5	197.8	15.10	14.46

Table 4. Age-adjusted acute care hospitalizations due to leading causes per 1,000 Medicare beneficiaries residing in Kansas in relation with the beneficiary population density in the counties of residence, 1995

Diagnosis	Counties		
	Urban	Semi-rural	Rural
Pneumonia and influenza	16.3***	20.1	29.2***
Congestive heart failure	15.6*	16.8	18.5**
Cerebrovascular diseases	17.3	18.0	18.3
Coronary atherosclerosis	13.0**	14.2	13.6
Acute myocardial infarction	8.5***	11.0	12.8***
Chronic obstructive pulmonary disease	8.5	9.1	10.9***
Cardiac dysrhythmia	7.7***	9.7	10.9**
Osteoarthritis	7.3***	9.0	10.7***
Fracture neck of femur	9.4*	8.7	8.3
Kidney and urinary tract infection	3.9***	4.9	6.3***
Septicemia	4.5	4.8	3.9

Asterisks denote significantly different from the number of hospitalizations for the same diagnosis in the semi-rural counties: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Except for the claims for hospice and all Part B services combined, the average cost of a claim for major services was highest in the urban counties and lowest in the rural counties (Table 2). The average cost of Part B services claimed by HHAs in the semi-rural counties was approximately 48 percent of that in other counties.

Age was also correlated with the number of days in short- or long-stay hospitals for male and female beneficiaries aged 65 and over (data available on request). On average, male and female beneficiaries stayed 206.5 and 197.8 days per 100 beneficiaries respectively in short-stay hospitals in 1995 (Table 3). The difference between these averages is statistically significant ($p<0.05$). These sex differences were also apparent in each county category (Table 3). There was no significant difference between the three county categories with respect to the number of days female beneficiaries stayed in short-stay hospitals. There appeared a trend in the number of days the male beneficiaries stayed at the short-stay hospitals, the number being highest for the rural counties and lowest for the urban counties. However, the difference between the urban and semi-rural counties virtually disappeared after adjustments for age (Table 3), and the number for the rural counties remained significantly greater ($p<0.05$). The differences between the three county categories with respect to the age-adjusted number of days the male and female beneficiaries stayed at the long-stay hospitals were more marked ($p<0.001$). For both sexes, the numbers were lowest for the semi-rural counties and highest for the urban counties, the numbers for the urban counties being more than three times those for the semi-rural counties (Table 3).

Table 4 shows hospitalizations in acute care hospitals in 1995 due to common primary diagnoses in relation with the beneficiary population density in Kansas. There was a general trend of the highest number of hospitalizations being in the rural counties and the lowest in the urban counties. The exceptions were the hospitalizations due to coronary atherosclerosis, septicemia, and fracture of the neck of femur for which there was a suggestion of a trend in the opposite direction. Some of the differences between the county categories, such as the hospitalizations for cerebrovascular diseases, were small and statistically insignificant.

URBAN-RURAL DIFFERENCES IN MEDICARE IN KANSAS

Continued from page 59

Claims data on the utilization of three common items of ambulatory care were also analyzed according to the beneficiary population density. In 1995, 32.9 colonoscopies and 52.9 cataract extractions per 1,000 beneficiaries were performed in the entire state of Kansas. There were no statistically significant differences between the age-adjusted frequencies of these procedures for the three county categories. Medicare beneficiaries aged 65 and over accounted for 82,927 emergency room (ER) visits which did not lead to hospital admission, or 23.5 visits per 100 beneficiaries in 1995. The number of ER visits per 100 beneficiaries residing in the urban, semi-rural and rural counties were 20.6, 23.6, and 26.6 respectively. Age-adjustment slightly reduced the differences between these numbers, but all differences between the crude or age-adjusted rates of ER visits are statistically significant ($p<0.001$).

DISCUSSION

Medicare beneficiaries residing in the rural counties were not expected to be older than the rest of the beneficiary population in Kansas. The need for medical care increases with advancing age, and elderly subjects are expected to move closer to large medical centers with comprehensive diagnostic facilities and a wide variety of speciality and super-speciality services. That seemed to be the pattern in Kansas where the Medicare beneficiary population in the rural counties did not grow from 1985 to 1995 despite the relatively low mortality. A relatively higher proportion of Medicare beneficiaries in the rural counties being eligible for Medicaid was an indication of their relatively lower economic status.

It was reassuring to find that the number of general practitioners serving Medicare beneficiaries were similar in all categories of counties. Concentration of specialist physicians in the urban counties is to be expected since advanced diagnostic and therapeutic facilities and academic institutions are concentrated in the regional/metropolitan centers. However, there were relatively greater number of independent nurse practitioners, acute care hospitals (most of small size), long-term care facilities, and HHAs in relation to the number of beneficiaries residing in the rural counties. These data suggest that the beneficiaries in the rural counties were most likely to have had equal access to medical care. A relatively greater number of claims from fewer hospices in the urban counties may be due to their larger accommodation and/or higher turnover.

As expected, the average cost of major health care services was relatively lower in the rural counties even though the number of claims for inpatient services, the most expensive claims, were higher. The number of claims for most of the other major services were lower in the rural counties as compared with other counties. Interestingly, the cost of hospice claims and the claims for all Part B services put together were relatively higher for the beneficiaries residing in the rural counties. The hospice services are itemized into four categories, each with different rate of reimbursement. It is likely that the criteria used for providing a particular service and the decision making policies vary from hospice to hospice. It may be that the expensive items of service, such as continuous home care, are more frequently provided for the beneficiaries residing in the rural counties.

Although male beneficiaries were younger than females in all counties, the number of days of their stay in short-stay (acute care) hospitals was significantly greater. This sex difference was largely influenced by the significantly higher number of (age-adjusted) days stayed by male beneficiaries who were the residents of rural counties. There were no marked sex differences in the number of inpatient days at the long-stay hospitals for the beneficiaries in the urban and semi-rural counties; but in the rural counties, the number of days for males were almost twice as many as those for females. The reasons for hospitalization would explain higher inpatient days for male beneficiaries as compared with females. For example, in 1995, male beneficiaries residing in the rural counties were more frequently hospitalized (18.8 hospitalizations per 1,000 beneficiaries) for acute myocardial infarction than females (10.5 hospitalizations per 1,000 beneficiaries). The criteria used to admit patients in hospitals would explain the urban-rural differences in diagnosis-specific hospitalizations and the number of inpatient days.

Although the number of ophthalmologists per 1,000 beneficiaries serving in the urban counties were almost four times the number serving in the rural counties, the rate of cataract extractions was the same in all three categories of counties. As expected, many cataract extractions and other surgical and diagnostic procedures on beneficiaries residing in the rural counties were performed in the urban and semi-rural counties. However, it appears that beneficiaries living in the rural counties did not travel to the urban counties for emergency services. There was no correlation between the rate of ER visits and the beneficiary population density at the state level (Correlation matrix or scatter available on request). Evidently, the inverse association between ER visits and the beneficiary population density may exist within states, or it may be that the association is peculiar only to Kansas. Apart from the beneficiaries' age and health status, many factors could influence the frequency of ER visitation. The beneficiaries' health care utilization behavior and health care providers' business practices may be the main factors. Beneficiaries living in the rural counties may have visited ERs more frequently because of certain personal, family, cultural and socioeconomic reasons. For example, beneficiaries in the rural areas may be working during office hours, or they may not have transportation to visit primary care physicians' offices, and visit ERs for minor ailments after office hours. The residents of the rural counties are more likely to put off primary care due to cost and transportation difficulties[3] which may result in ER visits. Lower socioeconomic status has been known to be associated with improper or greater utilization of health care services.[4,5] In Kansas, however, there is no significant correlation between the county per capita income and the county rate of ER visits in 1995 (Correlation matrix or scatter available on request). It is possible that the primary care and family physicians work in ERs in the rural counties of Kansas. They may have instructed their patients to see them in ERs rather than in their private offices. The hospitals in or near rural counties may also have promoted ER attendance by offering incentives to physicians and patients. In 1994, Medicare allowed $50.30 for an average claim for doctor's office visit, and the average cost of an ER visit in the hospitals participating in Medicare was $97.30.[1] If this cost differential exists in Kansas, there may be an opportunity for cost saving by reducing the rate of unnecessary ER visits.

Selected few measures of health care utilization in 1995 were used in this study to demonstrate urban-rural differences. The results suggest that Medicare beneficiaries who resided in the rural counties were a little older and poorer than other beneficiaries in Kansas; that they had equal, if not greater, access to hospitals participating in Medicare and physicians in general practice; and that with a few exceptions, their utilization of health care was relatively greater; but the cost of most services was relatively lower. These findings are consistent with those of similar studies of other populations.[3,6] Although ER and doctor's office visits are largely initiated by the patient or his/her relatives, hospital admission, surgery, other therapeutic and diagnostic procedures, and to some extent, outpatient attendance are determined by the attending physicians. Consequently, the beneficiaries are not entirely responsible for over or under use of these health care services. Different criteria for admitting patients in hospitals and for performing therapeutic and diagnostic procedures in different areas may have contributed to the observed urban-rural differences in health care utilization. In future studies, multivariate analysis of the data should be used to identify the factors independently affecting the utilization of health care in Kansas. Furthermore, data for several years should be analyzed to study time trends which may provide information useful for health care planning and policy decisions.

The views expressed in this article do not represent the views or policies of the Health Care Financing Administration or the United States.

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Struggles of the epileptic student; epilepsy and education

William B Svoboda, MD

EPILEPSY IS BEST CONSIDERED AS A syndrome consisting not just of seizures but also often with related (and created) problems of language, of learning, of emotions and eventually of earning. Nearly half of the children with epilepsy experience problems in school due to the seizures, the cause of the seizures, or the medicines,....problems such as retardation, a falling IQ, learning disabilities and interfering behavior problems. Comprehensive care beyond just seizure control not only improves present functioning and future achievement but significantly improves seizure control.

WHY LEARNING PROBLEMS?

Both the learning problems and the seizures may be due to brain damage. Partial seizure discharges in vital leaning pathways may "short-circuit" learning processes. Misused medications occasionally impair learning, but not as often as suspected.

Retardation

Retardation is most apt to be seen with generalized or multifocal seizures, with seizures of an early childhood onset, with symptomatic epilepsy, or with specific epileptic syndromes, i.e., West's Syndrome of Infantile Spasms, the Lennox Gastaut Syndrome, and to a lesser extent the syndromes which include minor motor seizures of early childhood. There is no strict relationship between retardation and the chances of seizures unless the IQ is quite low. Children with idiopathic generalized seizures often have a relatively normal intelligence.

The Declining IQ

School performance and IQ may drop due to missed seizures, prolonged or frequent seizures, drug intoxication, or failure to be helped with the learning problems. A drug induced Folic Acid deficiency may result in a dropping IQ, depression, or psychosis.

Learning Disabilities

Leaning Disabilities are seen in at least 20 percent of children with epilepsy. Risk factors include partial epilepsy (especially those with a temporal lobe focus), frequent focal seizures, or seizures of an early childhood onset. Boys appear more vulnerable.

Seizure Laterality

Seizures from the right hemisphere may cause perceptual motor problems. Such children may overlook or confuse similar details, letters, numbers or words. They may be sloppy, clumsy and sometimes forgetful for what they have seen. Children with left hemisphere seizures may have learning problems, impairing speech and language. They forget what they have heard. They may misunderstand or be misunderstood. Children with frontal lobe seizures often have disturbed planning and organization. They may not get their work done and may seem disorganized. Even their recall is disorganized. Early left brain seizures affect language development, causing "right brain learning problems" to appear also.

Processing Problems

Perceptual-Motor problems are seen not only with right hemisphere seizures but also with generalized seizures featuring spike-wave EEG discharges as well as with anticonvulsants at high dosages. Memory Problems are seen with partial seizures, especially complex partial epilepsy as well as with high therapeutic levels of anticonvulsants. Children with left hemisphere seizures tend to forget what they have heard, especially names and math tables; those with right hemisphere seizures forget what they have just seen. Children with frontal seizures confuse what they recall. Memory is normal with generalized seizures, although the child misses out at the time of a spike-wave discharge, even if it does not produce a seizure.

School Problems

Learning Disabilities impair school performance and often result in frustration and acting out behaviors. Reading is often at least a year behind with problems especially with comprehension. Phonetic reading approaches may be disturbed with left hemisphere seizures; sight recognition approaches may be impaired with right hemisphere seizures. Math and spelling are often even more impaired but this is often overlooked. Epileptic children may confuse numbers and signs, forget the math tables, but they have the most problems applying math to daily needs such as measurements, finances, purchasing, etc.

STUDY APPROACHES

Children with generalized seizures may have a slowed, interrupted performance due to subclinical seizure discharges. Children with left hemisphere seizures may become stuck on details and be slow to finish. Children with right hemisphere seizures rush through their work, guessing on their first impression. Children with frontal seizures show a poorly planned, disorganized effort. In general, children with seizures are slow performers, doing especially poorly on timed tests.

ATTENTION PROBLEMS

ADHD is an over diagnosed, often mistreated entity, due to many causes. In epilepsy, special types include a hyperreactivity to environmental stimuli seen with partial seizures, interrupted attention with impulsivity seen with generalized seizures, as well as anticonvulsant drug reactions. The emotional and behavior problems common to epilepsy, such as anger, anxiety, depression, and dependency rebellion, often may be misdiagnosed as ADHD. Diagnosis and proper treatment includes optimal seizure control, selection of the best medication for the child, help with school problems, and counseling with behavior modification. Drugs for ADHD may bring out seizures and thus should never be used in place of behavior approaches.

ANTICONVULSANTS

Any seizure drug can cause any problems. Barbiturates (phenobarbital, Mysoline) at high doses may cause attention, perceptual and memory problems. Phenytoin (Dilantin), even in high therapeutic levels, has been linked to perceptual and memory problems as well as a declining IQ. Valproate (Depakote) has been associated with perceptual problems. Lamotrigine (Lamictal) and perhaps other new anticonvulsants, may affect memory. Felbamate (Felbatol) may "brighten" children. Carbamazepine (Tegretol) is least apt to affect learning and may help with behavior problems. Indeed, any seizure drug may also lead to improvements in learning also through improved seizure control.

MANAGEMENT

Proper diagnosis and testing must be performed with full awareness of the effects of the seizures and of the medications. Children test beneath their abilities and perform even lower in daily school efforts. The physician can help by early detection and referral, as well as monitoring the ongoing functioning of the child. When concerns arise, the physician can work with the parents and the school to help with the problem before it becomes a major handicap. The medical and educational program needs to be adapted to the needs of the child, the long-term goal being to prepare the child to function optimally as an adult.

STRUGGLES OF THE EPILEPTIC STUDENT

continued from page 63

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The role of the attending physician in long-term care facilities

Daniel L. Swagerty, Jr, MD, MPH

The medical care of long term care residents provides numerous challenges for primary care physicians. Long term care residents are often cognitively impaired, confined to bed or a wheelchair, hard of hearing, suffering from several chronic illnesses, and receiving numerous medications. Physicians responsible for the care of long term care residents must be knowledgeable about state and federal regulations that govern this health care setting and must contend with a considerable amount of related paperwork. Despite these challenges, long term care residents are among those patients in greatest need of well-trained physicians and high quality medical care. With the number of older Americans increasing steadily and with more of their acute and subacute medical care shifted to the long term care setting, the need for physicians to care for them will continue to grow. Fortunately, this need is beginning to be recognized, as reimbursement for physician services in long term care, particularly in nursing facilities, has vastly improved in the past few years.[1]

THE LONG TERM CARE SETTING

The need for assistance with personal care or household activities is a hallmark of aging. The proportion of individuals requiring help with activities of daily living gradually rises from around 5 percent at age 65 to over 50 percent at age 90. With increasing disability comes the need for formal services. The expansion of home care has allowed a greater proportion of disabled older adults to remain at home. However, when needs are too great, residential long-term care is often required.

The prospect of entering a long term care setting is often an extremely unpleasant one for most older adults. The process is at least as difficult for most of their families. The first consideration in long term placement is whether it is really necessary. The older adult may be able to stay at home or live in another type of independent community setting (apartment or life care center) with the help of support services.

A formal assessment by a physician can help determine what limitations might exist for the older adult. A complete assessment addressing physical, functional, mental, and social domains should be performed. The primary care physician (family physician, internist, geriatrician) should be able to perform this evaluation with the assistance of available resources such as visiting nurse, social worker, or area agency on aging. The physician can then discuss the pertinent medical conditions, functional limitations, and social situation with the older adult and their family. When in-home services are feasible, most people are happier remaining at home.

If staying at home or in another community setting can be realistically considered, a referral should be made to the local area agency on aging or a home health care agency. Such a referral will determine how much and what kind of services the older adult will need. The local area agency on aging can provide information on available community services.

Most people with chronic, disabling conditions cannot have their needs meet unless family and/or community support services are available. When needed services are lacking (as they are in most rural areas), long term care placement should be considered. The most important issue in this type of placement is protecting the rights of the older adult, even if that means a competent individual is allowed to deteriorate in their own home rather than enter a long term care setting.

The older adult should be involved to the fullest possible extent in making the decision that a move is necessary and in making the choice of a particular facility. If the older adult strongly resists placement but cannot safely remain at home, the doctor should explain how long term care placement would help with the individual's specific health problems and provide needed assistance. The physician may also need to determine whether the older adult is competent to make that decision.

If the older adult is incompetent, the physician and family must act to protect him or her from harm. This may include placement in a long term care setting over the individual's objection. The legal appointment of a substitute decision-maker (a guardian) may be necessary under these circumstances. If this is the case, the physician will need to provide medical documentation of incompetency to the court.

ROLE OF ATTENDING PHYSICIAN

continued from page 65

TABLE II: SUBGROUPS OF NURSING FACILITY RESIDENTS

subgroup:	*focus and goals of care:*
"short stayers"	
terminal, likely to die within 6 months, for rehabilitation, likely to be discharged home within 3 months	comfort, pain relief, family support, physical and occupational therapy, independence
"long stayers"	
with medical problems (e.g., heart failure, osteoarthritis, COPD), with dementia, with dementia and medical problems	medical management behavioral management simplified medical regimen combined with behavioral management

TYPES OF LONG-TERM CARE SETTINGS

Nursing Facilities

Skilled nursing facilities, or nursing facilities, are institutions that house persons requiring the care or supervision of a skilled nurse (Table 1). They are licensed and regulated by state agencies, with considerable federal control through Medicare and Medicaid guidelines. Criteria for admission are imprecise allowing health providers and regulators to make decisions on a case-by-case basis. Persons residing in nursing facilities generally need assistance with at least one of the following activities: bathing, dressing, transfer, continence, ambulation, or eating, and the taking of prescribed medications.

The typical nursing facility is organized into departments, which in smaller facilities may all be the responsibility of a single individual. The departments of social work, activities, administration, dietary services, housekeeping, and maintenance tend to be small. Nursing is by far the largest department. Within the nursing department, a few licensed staff communicate with physicians, distribute medications, administer treatments, and supervise nursing assistants.

Non-Nursing Facilities

Residential Care Settings

(Residential Care or Assisted Living)

A variety of long-term care facility options exist outside of nursing facilities. These are called by different names and regulated differently from state to state (Table 1). Those that offer significant supervision and assistance with medication are generally termed residential care or assisted living facilities. Residents of these care facilities tend to be less impaired than nursing facility residents. However, residents of such facilities require some help or supervision with instrumental activities of daily living such as housework, cooking, managing finances, transportation, and shopping. Many also require help with activities of daily living. There is considerable overlap between the populations of nursing facilities and these residential care settings.

RESIDENTS OF LONG-TERM CARE FACILITIES

Residents of long-term care nursing facilities tend to be old, sick, poor, and alone. Mean age of residents in nursing and residential facilities range between78 to 84 years. Virtually all residents have one or more source of disability, such as Alzheimer's disease, vascular dementia, stroke, severe heart disease, osteoarthritis, amputation (usually secondary to diabetes), or chronic obstructive pulmonary disease (COPD). Lack of close relatives because of widowhood, divorce, never marrying, or not having children is a major risk factor for institutionalization. Low income is also a risk factor for institutionalization. A higher proportion of white older adults than their African-American counterparts are institutionalized. Stronger extended family networks and the existence of more available at-home caregivers among make this possible among African-American. Risk factors for nursing facility placement from a residential care facility include dementia, hearing loss, and problems with basic activities of daily living.[2,3]

According to Ouslander, nursing facility residents can be grouped into five types: short stayers for terminal care, short stayers receiving rehabilitation, long stayers with primarily medical problems, long stayers with dementia, and long stayers with both medical problems and dementia.[4] While residents do move from one group to another, this categorization is helpful to nursing facility staff in setting goals and priorities for care

TABLE I: A COMPARISON OF THE TWO MAJOR TYPES OF LONG TERM CARE FACILITIES

	Skilled Nursing Facilities (Nursing Homes)	*Residential Care and Assisted Living*
Number of beds in U.S.	Approximately 1.5 Million	Approximately 1.2 million
Major payment sources	Approximately 47% Medicaid, 46% private pay	Approximately 60% private, 35% Social Security disability
Services provided	Long term stays for persons with chronic disabling conditions (the most common of which is dementia) who require care by licensed nurses Rehabilitation stays averaging 2-6 weeks for persons with acute problems (such as stroke or hip fracture) who require daily physical or occupational therapy Short-term respite stays for persons cared	Long term residence for persons who need some assistance and supervision but do not require the intensity of services provided in a nursing facility Long term stays for persons who are on Social Security disability (SSI), many of whom are "disinstitutionalized" mentally ill persons Long term care for persons who pay for at home, so that caregivers can get a break privately for services and have chosen a non-nursing facility setting, but would qualify for nursing facility care
Involvement of licensed nurses	24 hours/day	Variable, often supervisory
Medication administration	Medication administration by licensed nurses (usually practical nurses)	"Assistance with self-medication" provided by unlicensed staff (usually aides)
Percent of residents with moderate or severe dementia	60%	40%
Relationship with physicians	Legally required to have a medical director Most physician-resident visits take place in the facility (OBRA mandated) Visits required every 1-or 2 months	Not legally required to have a medical director Many physician patient visits take place in physician's office Visits required annually

ROLE OF ATTENDING PHYSICIAN

continued from page 67

(Table 2).[4] For example, only some nursing facility residents should be considered for health promotion activities such as mammography and cholesterol reduction. Some residents (such as the terminally ill and those with advanced dementia) may be better off not receiving standard medical treatments such as antihypertensive care or antibiotics for infection.

Advanced age, female gender, unavailability of caregivers, and decreased function are independent clinical factors that have been associated with a higher probability of nursing facility placement.[5] For every older adult living in a nursing facility, however, at least two persons living in the community have the same disease and disability burden. Most likely, these community dwelling older adults have better support systems and caregivers that allow them to stay in their home.[6,7] This situation has never been studied prospectively, however. Nevertheless, greater home care benefits and more home care demonstration projects are being proposed with greater frequency in health care legislation.

CONCLUSION

At present, the United States has a shortage of physicians willing to provide care in the long term setting. In a recent survey by the American Medical Association, 65 percent of primary care physicians reported spending no measurable time caring for nursing facility residents. The predicted growth for the older adult population indicates that the number of physicians needed to care for these individuals will double or triple.[8] Consequently, the primary care physicians can expect a tremendous growth in the number of older adults to which they must provide care, including those in long term care settings.

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The role of the medical director in nursing facilities

Daniel L Swagerty, MD, MPH

LONG TERM CARE FOR THE ELDERLY POSES a difficult and complex problem for the health care system. Indeed, it has been said that long-term care for older Americans stands today as the most troubled, and troublesome, component of our entire health care system.[1] There is an ever expanding need for long term care which can be attributed to many factors. Among these are the aging of our society with increasing life expectancy, the chronic nature of disease so commonplace in the elderly, and the inability of families to provide adequate support.

The care of the nursing facility population presents a special challenge for physicians who care for these often neglected elders. Traditionally, physicians have not assumed a very active role in nursing facility care. Numerous congressional and academic studies have indicated the medical care of nursing facility residents is inadequate, with a few standards to guide the physician.[2-4]

THE MEDICAL DIRECTOR

Following the federal and state nursing home investigations of the early 1970s, the absence of physician involvement in nursing homes was cited a major deficiency.[1] In response to this dilemma, the position of nursing home medical director was created as a collaborative effort of the American Geriatrics Society (AGS) and the American Medical Association (AMA). The position of medical director is now mandated in all long term care facilities. Unfortunately, within many facilities, this position is still rather perfunctory, with little positive effect on the care of the residents. The positive impact intended by creating this position has not occurred due to several reasons.[5] The facilities have not provided direct authority. clear responsibilities, or a sufficient budget and staff to make this position effective and maximally functional. Physicians have contributed to the problem by not providing sufficient time or expertise to the position. They have also not insisted on a proper organizational position before assuming the role. In spite of the many existing problems, to their credit many medical directors have been quite successful in improving the quality of care in long term care facilities. This improvement has been largely dependent on the physician's persuasiveness, dedicated time, and collaboration with the director of nursing and administrator.

For the 20 years that the position of nursing facility medical director has existed, there has been slow change to the current level of knowledge and sophistication. Currently, the 1987 Omnibus Budget Reconciliation Act (OBRA '87) regulations are the major foundation for a medical director's responsibilities in the United States. Since October 1990 all nursing facilities have been required to have a medical director. However, both physicians and nursing facilities are still often unsure about what a medical director should do and how the position can help improve care.

OBRA '87 requires only two things of the medical directors: coordinating the medical staff and its function, and coordinating resident care policies for the facility. However, the interpretive guidelines for this regulation dictate substantial responsibilities:

> "The medical director is responsible for implementing resident care policies regarding admission, transfers, and discharges; infection control; physician privileges and practices, responsibilities of non-physician health care workers (e.g., nurses, rehabilitation therapists, and dietary personnel); emergency care; resident assessment and care planning; accidents and incidents; services such as laboratory, radiology, and pharmacy; medication use; clinical information use and release; utilization review; and overall quality of care. A medical director who only approves resident care policies does not meet the requirement. The medical director is responsible for assuring that a facility provides appropriate care in general, and that care of individual residents is adequate. When inadequate or inappropriate care is cited, the medical director must correct the situation, including consulting the resident or the resident's physician. The medical director must ensure timely visits and adequate medical coverage."[6]

Despite this regulation being somewhat vague and offering few guidelines, it provides a positive mandate to improve the

ROLE OF MEDICAL DIRECTOR

continued from page 69

FIGURE 1: THE MEDICAL DIRECTOR'S ROLES AND FUNCTIONS: BREADTH AND DEPTH

ROLES	PLANNING	ORGANIZING	MANAGING	LEADING
Functions and Tasks	1. Help plan facility programs, services 2. Plan for medical staffing and support needs 3. Plan for research and education activities and programs 4. Strategic planning for the facility for future expansion, new directions	1. Organize medical services 2. Establish by-laws, policies, procedures 3. Establish medical quality management program	1. Participate in administrative decision-making 2. Create and modify clinical policies and procedures 3. Ensure appropriate and timely quality medical care 4. Ensure physician compliance with law, regulation, and policy 5. Investigate and resolve medical staff problems 6. Coordinate medical and other resident care services 7. Perform medical quality management oversight	1. Demonstrate geriatric medical principles through patient care/ consultation 2. Advise facility of medical staff need for assistance/ support 3. Participate in overall quality management program and quality improvement process 4. Represent the facility in the community 5. Participate in employee health program 6. Help promote residents' rights 7. Attain and apply knowledge of regulatory, legal, economic, and social factors affecting care 8. Participate in research, education activities and programs
Skills:	Organizational Conceptual	Organizational Conceptual	Clinical Informational Interpersonal Problem solving Communication	Clinical Informational Interpersonal Problem solving Communication Conceptual Decision making Teaching

quality of care in long term care facilities and has broadened the scope of the medical director.

ROLES OF THE MEDICAL DIRECTOR

Quality of care is the most important function of the medical director. To be an effective medical director, the physician must be willing to be an active participant in the quality management program, establish resident care policies and procedures, establish an effective liaison with attending physicians, and be a consultant to the administration and other professionals regarding resident care. The roles, functions and tasks of medical directors have been assessed and much better defined in the past five years.[7] The responsibilities of medical direction have both depth and breadth (Figure 1).[5] There are many potential functions and tasks beyond basic requirements. Some of these functions are similar to those in other settings, and some are unique. A medical director and facility should tailor a job description by understanding potential functions and tasks, and comparing these to the facility's needs. Thus, not all medical directors will have the same responsibilities.

Historically, the medical directorship has not been viewed as an important position. The medical director should be an active member of the clinical and administrative team. The suggested roles that follow are intended to take into account not only what is legally required of the medical director, but also additionally what would strengthen the medical director position.[5,7] Accomplishing the positive change needed in nursing facility care depends on a proper organizational position of the medical director, availability of adequate resources to that position, and a real commitment from the physician and facility.

One strategy to strengthen the medical director position is to make that individual a member of the governing body. The medical director must play a key role in formulating appropriate resident care policies. Since the decisions that make the greatest impact on quality of care are made in the board room, the medical director must have direct contact with the governing body. If the medical director is not given direct and regular access to this body, he/she should realistically question involvement with the facility.

A second important strategy would be to build involvement of the medical staff in the nursing facility. The medical staff is extremely important in maintaining the quality of care. The medical director should organize the medical staff and bring them into medically-related committees. This should strengthen staff relationships and involvement with the nursing facility. Communication with other physicians is often a difficult task, yet an important one for the medical director. Many primary care physicians feel threatened by the medical director, seeing him/her as competing for patients and hounding them to comply with regulations about physician visits. Both the requirements for physician privileges and criteria for withdrawing them should be established and effectively communicated to the medicine staff. By-laws for staff physicians are recommended and should be fair but not onerous. The medical director should be firm with non-compliant physicians by utilizing bylaws that specify loss of admitting privileges if their visits are repeatedly tardy. When a new medical director is appointed, a letter of introduction to the attending medical staff is very helpful. The medical director may wish to write an annual report to the staff physicians describing activities in the nursing facility.

A third strategy would be to strengthen medically-related activities. Unfortunately, clinical problems in the nursing facility such as safety, infection control, and pharmacy have long been driven by regulation rather than by clinical science. The medical director must be an expert in these areas and use his/her knowledge to make these activities effective. The medical director should review and participate in the formation of all policies and procedures, including resident care policies, infection control guidelines, pharmacy protocols, physician bylaws, and all other clinically-related procedures within the facility. Knowledge of federal, state, and local regulations concerning long term care facilities is especially important for the medical director. He/she should assist the facility in discussions with regulators and help to ensure compliance with standards.

A fourth strategy to strengthen the medical director position is a meaningful medical quality management program. Such a program can stimulate major improvement in the quality of care. It will be most effective if established by the

ROLE OF MEDICAL DIRECTOR

continued from page 71

medical director with the input and cooperation of the director of nursing, the administrator and other pertinent nursing home staff. The quality management program can only be effective if guided by a knowledgeable medical director and involves the widespread support of all the facility staff, including the attending physicians.

For these strategies to be effective, there must be significant resource allocation by both the medical director and nursing facility. Primarily, the medical director must provide time and expertise, with the nursing facility allocating enough financial and staff support to provide a foundation for these strategies.

CRITICAL INVESTMENTS TO THE MEDICAL DIRECTORSHIP

The most important investment to the medical director position is dedicated time devoted by the physician. Performing administrative and general duties should be kept separate from clinical time spent caring for residents as their attending physician. Although the contractual duties of the medical director may only require several hours per month, it is vitally important for the medical director to invest the time to become involved in the fabric of the facility, to identify problems, and to participate in solutions. This type of involvement usually requires at least eight hours per week for a 100 bed facility. The time requirement for these administrative tasks would vary only slightly in smaller or larger facilities. Each task requires a certain amount of time to develop and implement which is fairly fixed regardless of the number of beds.

A second critical investment is adequate staff support. Many nursing home facilities have been highly successful in dedicating a physician assistant or advanced practice nurse to a full-time position in assisting the medical director. This individual would investigate clinical situations, organize and conduct quality management monitors, review charts for compliance with resident care policies, and represent the medical director when absent. This position can also be vitally important in assisting the medical director provide emergency 24-hour coverage of resident care and administrative problems. Even though every attending physician should have 24-hour coverage for the residents in their practice, if the system fails, emergency care for those residents falls to the medical director or his/her surrogate.

Adequate financial resources must be allocated by the nursing facility as a third critical investment. The medical director should receive adequate support for their administrative time. Physicians have often been willing to assume the medical directorship in order to supplement their income with monthly visits to the nursing facility residents and by the revenues generated by hospital admissions from the facility. Basing the medical director position on a salary and not on resident care revenue should enable the medical director to devote the time required to effectively perform their administrative duties. The long term care facility and the medical director should delineate the financial arrangement and responsibilities of each party in a written contract. Adequate financial resources would also be required if a physician assistant or advanced practice nurse is employed. Medical staff liaison activities, staff assistants, the quality management program, and education activities all require financial support by the facility.

Education is the fourth critical investment that must be made by both the nursing facility and medical director. Education for all nursing facility employees enhances quality of care, employee satisfaction, and may increase employee retention. Inservice sessions and teaching rounds help motivate the staff to do a good job and increases their job morale. Integrating the nursing facility into geriatric medical and nursing education is imperative for providing quality care now and in the future. The teaching nursing facility develops great pride in the staff and residents of the facility.

CONCLUSION

The medical director of a long term care facility is of vital importance in the management and provision of quality care. Excellence in nursing facility care will never be achieved until the medical director plays a truly meaningful role in the operations of the facility through an integral involvement, appropriate organizational position, and adequate financial support. The position of medical director should be nurtured and enhanced by the medical community and nursing facility industry. Only then will society be assured of the highest quality in nursing facility care.

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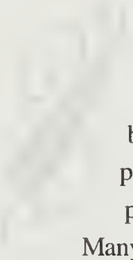
Hypnotics in the elderly

Melissa J Webb, PharmD



INSOMNIA IS A common symptom among the elderly, but only half of these patients notify their general practitioner of the problem.[1] Many elderly people describe difficulty falling asleep/staying asleep, waking too early, needing to nap, and not feeling rested.[2] While it is known that sleep patterns change as age increases, ie. circadian clock shifts to earlier hour (awake at 3 a.m.; asleep at 7-8 p.m.) most patients expect the same sleep behavior they experienced earlier in life.

It is important to remember that insomnia is a symptom and not a diagnosis. Concomitant conditions can adversely affect sleep patterns. Conditions such as respiratory disease (COPD, sleep apnea), restless legs syndrome, arthritis, pain, nocturia, depression, as well as medications (shown in Table 1)[3] can aggravate insomnia.

Management of insomnia includes a complete patient evaluation, good sleep hygiene (see Table 2), and monitored hypnotics for limited time periods.

PRESCRIPTION DRUGS

Approved hypnotics include benzodiazepines (BDZ) and a unique non- benzodiazepine (zolpidem); although antidepressants, antipsychotics, and over-the-counter antihistamines have been used. Short-acting BDZs and zolpidem should be used for transient, short-term insomnia and should be limited to a few days of occasional use; not to exceed 2 weeks.[3] In 1997, the elderly (13 percent of total U.S. population) used 30 percent of all hypnotic prescriptions. Those older than 75 and women were most likely to use hypnotics. It is important to remember that acute administration of BDZs is associated with daytime sedation and impaired cognition, memory, coordination, and balance.[4] Studies have shown that long-acting BDZs (flurazepam, diazepam, chlordiazepoxide) are associated with an increased risk of hip fractures and falls. It has also been reported that short half-life BDZs can carry the same risk if large doses are administered.[5]

Many clinicians have viewed zolpidem (Ambien®) as a benzodiazepine without side effects. Zolpidem has a short half-life and no active metabolite. It has the sedative effect of a benzodiazepine with less efficacy as an anxiolytic, muscle relaxant, or anticonvulsant. Short-term use has been associated with confusion, amnesia, hallucinations, dizziness, lightheadedness, headache, and worsened depression. Long term use increases the potential for tolerance, addiction, and withdrawals as well. Many patients over-utilize this drug. A 1996 Kansas Medicaid utilization review of 250 paid zolpidem claims revealed that the average length of continuous zolpidem therapy was 126 days.[6] The mean patient age was 62 years. This is concerning since the recommended duration of use is 7-10 days. Adverse reactions and withdrawal symptoms from long-term use are more likely to occur in older patients.

An option for treating chronic insomnia (after excluding all potential etiologies) is an antidepressant with sedative properties. Amitriptyline, imipramine, and doxepin use is generally not recommended for elderly patients because of anticholinergic effects, extended half-life, and increased risk of falls.[7] Low dose (50-100 mg) trazodone as a single evening dose may be preferred.

OVER-THE-COUNTER DRUGS

Quality of sleep among patients is not always a priority during a patient evaluation. However, if health care professionals don't address the issue, patients are left to self-medicate. Over-the-counter sleep aids, including combination products (herbals, sleep aid/analgesic) have been increasing in sales. Diphenhydramine (Nytol,® Tylenol PM®) and doxylamine (Unisom®) can cause daytime sedation, impairment of skill performance, and anticholinergic effects (urinary retention, dry mouth, constipation). Excessive doses can cause delirium and psychosis among the elderly.[8]

TABLE 1: MEDICATIONS THAT MAY CAUSE INSOMNIA[3]

Caffeine

Nicotine

Alcohol

CNS Stimulants

Bronchodilators

Corticosteroids

Beta blockers (propranolol)

Antidepressants (SSRIs)

TABLE II: SLEEP HYGIENE FOR ADULTS, PARTICULARLY IN THE ELDERLY[3]

- Keep regular hours for meals and sleep
- Nap less than 30 minutes per day
- Exercise regularly
- Go outdoors; exposure to sunlight
- Limit caffeine and alcohol intake
- Avoid tobacco
- Restrict liquids in evening hours

HERBAL DRUGS

Herbal treatments are also increasing in popularity. Two examples of dietary supplements promoted for sleep are valerian and melatonin. Valerian (often combined with other sedating herbs such as hops and lemon balm) has been shown to have sedative/hypnotic effects. It is used to promote sleep, but doesn't decrease night awakenings. It can cause morning drowsiness, headache, excitability, and cardiac disturbances. Areas of concern include side effects, efficacy, or drug interactions. Melatonin is another agent used to promote sleep. It is a natural substance produced by the pineal gland. Studies are currently under way to assess efficacy and dosage requirements for elderly patients. Prevalence and types of adverse reactions have not been fully investigated.

Patients may also try to self-medicate with alcohol. While it does cause initial CNS depression, it disrupts sleep later by causing rebound excitation and is therefore, ineffective.

RECOMMENDATIONS

1. Rule out remediable etiologies of insomnia such as depression, sleep apnea, restless legs, gastric reflux, hyperthyroidism, hot flashes, medications, nocturia. Remember that nocturia can be caused by diuretics, CHF, and urinary tract infections as well as prostate disease.
2. Reinforce proper sleep hygiene. It may be necessary to write these as a prescription so patients can remember these recommendations and also feel validated.
3. Ask patients about over-the-counter product usage. Do not recommend > 7 days of use of antihistamine products due to anticholinergic effects in elderly.
4. Await confirmation of appropriate dose and long term effects of herbal/hormonal treatments.
5. Limit use of short-acting benzodiazepines or zolpidem and always use lowest effective dose, such as:
    - Lorazepam 0.5-1.0 mg hs (least expensive)
    - Temazepam 7.5-15 mg hs
    - Oxazepam 15-30 mg hs
    - Zolpidem 5 mg hs (most expensive)
6. Reserve antipsychotics for demented, agitated patients in nursing homes. Low dose haloperidol, risperidone, or olanzapine is, however, acceptable.
7. For chronic insomnia, consider trazodone 50-100 mg hs
8. Institute proper monitoring and assess usage and efficacy of medication and non-pharmacologic treatments

TABLE III: SLEEP HYGIENE IN NURSING HOMES

Table 2 recommendations, plus:

- Discourage eating meals in bed
- Display large clocks and calendars prominently
- Minimize nighttime noise; especially from staff
- Keep resident rooms dark as possible at night
- Keep rooms bright in the daytime
- Match roommates on basis of night/day behaviors
- Maintain familiar bedtime routines
- Provide quiet activities for those who can't sleep

HYPNOTICS IN THE ELDERLY

continued from page 75

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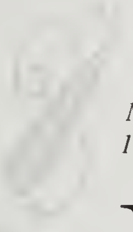
A collection of masterpieces

David S Jacobs, MD



The Final Comment. Selected writings of David E. Gray, M.D., Editor of Kansas Medicine, 1971-1993. *Orchestrated by Warren E. Meyer M.D. and Val Braun. Kansas Medical Society, 1998; paperback, 207 pages.*

IT IS WELL KNOWN THAT OFTEN BOOK reviewers don't really read all of the tome about which they are supposed to provide evaluation. However, this reviewer had the great pleasure and benefit of reading and enjoying tremendously Dr. David Gray's *The Final Comment*. The writing is articulate, crisp, and clear and often offers humor better than many more contemporary sources. It exhibits keen medical insight and observation at its best, admixed with wonderful one-liners and pithy notes of an experienced and wise physician and gentleman.

The book starts with a well-written introduction by Dr. Warren E. Meyer, present Editor of *Kansas Medicine*, expressing admiration for Dr. Gray's common sense, wit and wisdom, qualities the reader soon recognizes. Dr. Meyer explains that Dr. Gray's writings, born from the heart of a knowledgeable, honest, caring physician, helps one gain a balanced view of issues facing our profession. Many of the editorials are timeless. For example, in one titled "The More it Changes" (1971): "...it is easier for (man) to promote changes in others than in himself." In "Take It, It's Good for You" (1971): "...in the days of 'autointoxication' when it was considered mandatory for the colon to be synchronized with the Greenwich Observatory."

In "Fable" (1973): there was a "...Docque...who was generally held in high esteem because of his custom of making castle calls and keeping no books..." Dr. Gray has some words about bureaucrats in the same narrative. A proposal had been made to enhance Docque's manner of dress. "Your Imperial Highness," interposed the Minister, "...we stand ready to do anything to implement, expedite and obfuscate this project." "We didn't know you were in the tailoring business," said the Emperor. "Oh no," cried the Minister, "We don't know anything about tailoring, I'm talking about administering it."

In "Praise the Lord and Pass the Politician" (1974) we read "Of course, a statesman is really a politician who does what you want him to do." In "The Proud Man's Contumely" (1975) we note "On occasion the milk of human kindness is thoroughly curdled."

"Provide and Conquer" (1975) addresses the bureaucrat's approach. "One of its standard features, gleefully picked up by the Sunday supplements, is the exposure ...discovery...and disclosure...of (whatever the regulator wishes to control)...e.g., laboratory services. Taking them piecemeal...diminishes the likelihood of concerted resistance by the profession. But the physician has-or should have-the uneasy feeling that when enough of his satellites have been brought under federal control so, to all intents and purposes, will he be" (This was written in 1975!)

Problems addressed include the increasing penetration of non-medical activists into medical practice ("Face in the Crowd," 1979). HMO's and insurance companies are discussed ("Medical Costs: the Prodigal Sum", 1983), in an editorial in which the ultimate success of a health plan would seem to eliminate physicians altogether. Dr. Gray asks how "we arrive at the cost effectiveness without knowing what that effectiveness is?" There is wonderful insight into health plans in pages 152-155.

We like the title in a discussion of malpractice attorneys: "Sweet Sue" (1986).

Medical news as big business: "What's New?" (1986), notes that the public "...fails to appreciate the most important element in the application of medical knowledge, the responsibility for the performance of the medical service."

Medical schools are discussed in "The Long and the Short" (1986). The art may be longer, but Dr. Gray fears that Hippocrates might presently suffer a recognition problem.

Samples of other noteworthy one-liners:

> "...to boldly identify himself as a politician would be equivalent to proclaiming out of wedlock origin." (1974)
>
> "Everyone's favorite subject, cost containment..." (1979)
>
> "...Physicians have been more interested in promoting health than the public has been in having it promoted." (1980)
>
> "The current period in medicine will come to be known as the age in which the patient became standardized." (1989)

A REVIEW OF *THE FINAL COMMENT*

continued from page 77

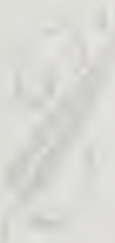
The *Journal of the Kansas Medical Society* was discussed in an editorial in 1976 ("Birth Without Violence"). It began as the *Transactions*, and gave way to the *Kansas Medical Journal* in June 1901. One dollar was withheld for the Journal from each member's dues of three dollars. In "A Matter of Opinion" (1982) state medical journals are discussed, noting that "from its pre-Civil War beginnings, the KMS sought to enlist all legitimate physicians, if for no other reason than the fact that there weren't too many anyway." (Dr. Gray elsewhere discusses reasons for the need for physicians to support their professional societies.) In 1983 in "The 1,000 Calorie Journal," discussing the "...certain although fragile solvency," Dr. Gray observes that "...we can't call on the government for help *á la* Chrysler..." Reducing articles to the shortest form compatible with their message and the author's blood pressure was advocated. However, he recognized the "...increasingly proprietary attitude" toward the author's paper and "any intrusion, particularly any threat of abbreviation, is an affront at least on a par with violating Mom while she is baking that pie and waving that flag."

This reviewer regrets the passing of *Kansas Medicine* and hopes that the decision to do away with it will not damage the practice or spirit of medicine in Kansas in the long haul. In Dr. Gray's words, about some reader of the future, looking back: "Whether he will have publications such as this available, we can't see too clearly. That crystal ball isn't cloudy, after all-it's them blamed tears" (1979).

I regret that I never had the pleasure of personally meeting Dr. Gray. I've submitted manuscripts with medical students that were always graciously received and expeditiously handled.

A review of *Rheumatic Fever and Streptococcal Infection*

Marvin Dunn, MD



Rheumatic Fever and Streptococcal Infection,
Unraveling the Mysteries of a Dread Disease
is written by Benedict F. Massel, MD and published by Harvard University Press for the Francis A Countway Library of Medicine, Boston, 1977.

During my professional career spanning the last half of this century, smallpox has been eliminated globally. Polio, tuberculosis and rheumatic fever have been eradicated in most westernized nations. Smallpox and polio have been eliminated due to global vaccination programs, but the disappearance of tuberculosis and rheumatic fever remains a partial enigma. Dr. Benedict F. Massel has written a comprehensive account of rheumatic fever, including its history, clinical course, latent valvular heart disease, relationship to streptococcal infection, penicillin prophylaxis and its virtual disappearance in the United States. He has been studying this disease all his professional life (65 years), he has been an active research contributor and been personally involved in many of the controversies surrounding rheumatic fever. His comments are authoritative, historically correct, entertaining and lucidly presented.

A chronologic history of rheumatic fever is presented in the opening chapters. As a chauvinistic Kansan, I was pleased by the way Dr. Massel relied heavily on Dr. Ralph Major as a documentary resource. The frustrating attempts of investigators to uncover the etiology, pathogenesis, as well as the morbid prognosis of rheumatic fever in the era prior to corrective mitral valve surgery are recounted.

To me, the most fascinating part of the book related the establishment of a pathophysiologic connection between hemolytic streptococcal infection and rheumatic fever. The biblical prophecy, "A little child shall lead them" (Isaiah 11:6), proved to be appropriate, since Dr. Alvin Coburn, who discovered the association between hemolytic streptococcal infection and rheumatic fever, was a medicine resident when he made the initial observation of this relationship. He continued to gather data after entering private practice and finally was able to convince others of the validity of his observations. The treatment of streptococcal infection with penicillin produced the virtual eradication of rheumatic fever in America.

I have always been intrigued by the societal factors that are involved with rheumatic fever. They include poverty, crowded living conditions, climate, hereditary or familial factors and perhaps, diet. Of interest was the almost epidemic occurrence of rheumatic fever in some military bases and its exclusion from others during World War II and subsequently.

Considerable research has been done to study the mechanism whereby hemolytic streptococcal infection causes rheumatic fever. Currently an autoimmune mechanism appears to be the most provocative bridge between the two conditions. However, hereditary factors that are not genetic in nature also seem to be of importance. It has been the hope of investigators that a vaccine might be developed and prove to be protective in geographic areas in which a high incidence of rheumatic fever exists, efficacy yet to be established.

Even though rheumatic fever is no longer a dread disease or even an important entity in westernized nations, it still remains an important problem in underdeveloped nations. Recently, there have been recurrences in the United States and Western Europe, indicating that although the disease has been suppressed it has not been totally eradicated.

For those interested in searching for nuances of this disease, its etiology, pathogenesis and treatment, there is an annotated 90 page bibliography and an excellent index. Although an enormous amount of factual information is presented, the narrative is compelling, fascinating and exciting. As such, it should attract readers interested in the many aspects of medicine and history incorporated in the book.

On the Shoulders of Giants

David S Jacobs, MD

Clinical Diagnosis and Management by Laboratory Methods was written by *John Bernard Henry and published by W.B. Saunders Co., 1996.*

The history of this book reflects the history and development of clinical pathology, and hence the history of twentieth century medicine. Todd published a series of articles, from which a 124 page book emerged in 1906-07. The first edition of *A Manual of Clinical Diagnosis* followed in 1908; it was 7.5 x 5 inches and had 319 pages. The sixth edition was written by Todd and Sanford.[1,2] The 13th edition was edited by Davidsohn and Wells. Davidsohn described the purpose of hospital pathology in the five words of the title: "Clinical Diagnosis by Laboratory Methods."[3] The 14th and 15th editions were edited by Israel Davidsohn and John Bernard Henry. The 17th Edition was titled *Todd Sanford Davidsohn - Clinical Diagnosis and Management by Laboratory Methods,* ed. Henry, 1984. By 1991, names of the illustrious pioneers had been dropped from the cover, but a tribute to them remained within: "We stand on the shoulders of the giants," Henry wrote.[4]

The present 19th edition, 1996, includes a similar tribute. *The book in 1996 had spanned 87 years, and is among the most significant medical texts of this century.*

Eight editors and ninety two authors include predominantly M.D.'s, mostly pathologists, but a healthy admixture of other credentials is found, including some of the most distinguished names in science I know.

Point-of-care testing is addressed briefly. The author correctly notes that team efforts are needed and that the laboratory must play a leading role in provision of these services. Methodologic variability of laboratory tests is an important topic for which many busy physicians enjoy little time. Here is a good condensed source. The variability of home glucose monitoring is described in a clinically relevant paragraph every physician should review.

There are really useful tables scattered through the book, set among pages of helpful, easily read and logical text. Clinical case examples are presented effectively. Theory, physiologic chemistry, clinicopathologic correlation and overviews of analytical techniques are presented together, blended into 1556 big pages. A modicum of relevant history is included episodically, and solid practical information rivals that found in entirely clinical books.

Although portions of the text are of interest predominantly to pathologists and medical technologists, much of the edition presents medical description and explanation needed by most physicians.

A few criticisms may be offered. There seem to be relatively fewer citations from the 1990's than from the 1980's in a minority of the chapters. Discussion of the oral lactose tolerance test does not point out that the test is usually unnecessary. Rare errors are found on prolonged searching; most are obvious and not damaging. The glucose loads for testing for gestational diabetes are not expressed as *mg*.

Although descriptions of salt metabolism, for instance, are first rate, this edition is not just a rehash of vagaries of sodium and chloride aberrations. A whole chapter on polymerase chain reaction in early detection and monitoring of cancer includes RAS oncogene as a potential biomarker, cancer-related viral infection, growth factor receptors, mechanisms of oncogene-induced carcinogenesis and other emerging topics in oncology. Molecular pathology is extensively expanded. It includes state of the art medicine of the 1990's and it is good.

I haven't seen a better chapter on amniotic fluid anywhere. The color plates in the hematology and microbiology chapters are gorgeous. The updated immunohematology and transfusion chapters are thorough, sensible and practical. HLA and major histocompatability complex chapters are useful and just right in depth and length for this resource. Practical appendices are provided.

I recommend the book to family physicians, internists and other clinicians to stand beside *Cecil, Harrison*'s and *Nelson*. It belongs on every pathologist's desk.

The giants would be proud.

(Editor's note: Following completion of his residency, Dr. Jacobs spent a year in Dr. Davidsohn's clinical laboratories, 1962-3.)

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